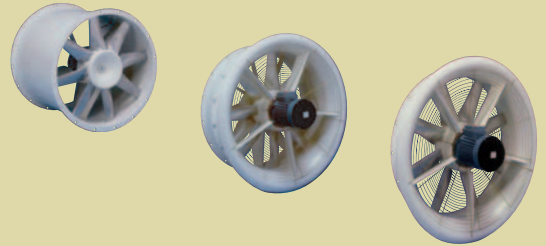


Novenco Axial Flow Fans

Novax – Standard and hot Smoke

September 2006



Product Facts

Product

Axial flow fans with presettable blades.

- ACN for duct installation
- ACG free intake with connection to duct
- ACP free suction and exhaust, for wall/bulkhead mounting

Application

Novax axial flow fans are used for standard installations in connection with comfort and industrial ventilation including removal of hot smoke in case of fire.

Range

The series of Novax axial fans is offered in 14 sizes with rotor diameters from Ø250 to Ø1600 mm for standard fans and in 12 sizes with rotor diameters from Ø400 to Ø1600 mm for hot smoke fans.

There are seven sizes of hub diameters from Ø160 to Ø578 mm for both types of fans.

The air flow rates run from 0.1 to 65 m³/s with increases in pressure up to 2000 Pa for standard fans and from 0.2 to 65 m³/s with increases in pressure up to 2000 Pa for hot smoke fans.

Hub Diameters [mm]	Number of Blades Novax
Ø160	4
Ø230	6
Ø280	8
Ø330	10
Ø380	12
Ø403	6
Ø578	10

Number of Blades according to Hub Diameter

Motors

ACN, ACP and ACG

Dimension standard: IEC-72

Electrical standard: IEC-34

Enclosure: IP-55 or IP-54

Insulation: Class B, F or H

Balancing: ISO 2373

Structural shape: B14 and B5 (flanges)

Hub Diameters [mm]	Motor Sizes
Ø160	71 - 90
Ø230	71 - 100
Ø280	71 - 112
Ø330	80 - 132
Ø380	90 - 180
Ø403	112 - 180
Ø578	132 - 280

ACN, ACP and ACG Motor Sizes

Important The choice of motor manufacturer and motor sizes is limited due to special requirements for installation. This applies especially for type ACN.

Materials

Blades: Vanes of aluminium or glass fibre reinforced polyester (GRP). Hot smoke fans are made only with vanes of aluminium. Please note that rotors with hub sizes Ø403 and Ø578 mm, only are delivered with aluminium blades.

Hub: Hot-dip galvanised sheet steel (Sendzimir galvanised)

Fan housing: Hot-rolled, hot-dip galvanised sheet steel

Flange Standard

Flanges are in accordance with EUROVENT 1/2.

Classifications

Technical capacity in accordance with BS 848:1980 and ISO 5801:1997.

The fans meet the requirements for operation in unheated, low-corrosion environments in accordance with DS /EN ISO 12944 - 2, Corrosion category C3.

The temperature range for the fans is as standard -20 to +40 °C. Max. temperature range is -40 to +120 °C. GRP-blades are limited to max. +70 °C.

At -40 to -20 °C and +40 to +120 °C, with reduced RPMs and special motors.

Fans used for hot smoke removal are approved in class F300 according to EN 12101-3 to operate for at least 60 min. at 300 °C. In addition, type ACN is approved according to EN 12101-3 to operate for at least 120 min. at 400 °C.

Accessories

- Mounting feet
- Mounting plates
- Intake funnels with mesh
- Mating flanges
- Duct bosses
- Flexible connections
- Silencers with or without cores
- Acoustic diffusers with cores
- Brass lining
- Anti-vibration mountings
- Diffusers
- Welding sockets

Description	4
RPM and Frequency Regulation	5
Type Descriptions	6
Overview of Types and Accessories	8
Performance Curves for ACN at 50 Hz	10
Performance Curves for ACG at 50 Hz	12
Performance Curves for ACP at 50 Hz	14
Dimensions	16
Accessories	18
Calculations	26

Important

This document is provided 'As is' and is subject to change without notice. Novenco reserves this right due to continuous product development.

Copyright (c) 2002 – 2006, Novenco.
All rights reserved

MU 13948 0906

Trademarks

Novenco is a trademark of Novenco.

Other trademarks appearing in this document are the property of their respective owners.

Description

Novax are compact, robust, series-produced axial flow fans with presettable blades.

Novax fans are installed in a wide range of ventilation systems on shore and off-shore: Comfort systems, industrial, process, parking and tunnel ventilation as well as environment-enhancement systems. The fans require little space, are easy to install and offer high operational reliability.



Rotor

Novax Fan Types

The Novax rotor consists of a pressed, two-part, assembled hub with depressions in which the blades are fixed. The rotor is provided with a hub boss on one side for mounting on a motor.

The rotor blades can be fixed steplessly at angles between 25° and 70°, depending on installation size and RPM.

The rotor is integrated with the motor in different designs of fan housings to form standard fan types with several applications.

- ACN for duct installation
- ACG free intake with connection to duct
- ACP free suction and exhaust for wall/bulk-head mounting

Blade Materials and Motors

The rotors are supplied with blades of either glass fibre reinforced polyester (GRP) or aluminium – hot smoke fans, however, only with blades of aluminium. The capacity, shape, strength and stability of the two blade types are identical.

Rotors with hub sizes Ø403 and Ø578 mm can, however, only be supplied with blades of aluminium.

In the temperature range -20 to +40 °C the lighter and more corrosion-resistant GRP blades are standard. In the ranges -20 to -40 °C and +40 to +70 °C both blade types are used. This, however, is with reduced RPMs and special lubricant in the motors. In the range 70° to 120°C, aluminium blades are used exclusively and at reduced RPMs.

All fan types use flange motors.

Classifications

The fans are as standard delivered for operation in unheated low corrosive environments according to DS/EN ISO 12944-2 and corrosion category C3.

The fans are furthermore approved as fans for removal of hot smoke according to EN 12101-3.

Adjustment of Blade Angles

The blade angle for the fan matching a specific capacity is calculated with the PC calculation program. The blade angle is adjusted in the factory in a precision tool and the rotor is aligned and balanced carefully.



Balancing of Rotor

Internet Calculation Program

Via Novenco's web site it is possible to calculate the correct choice of type and size based on air quantities, pressure, operational cost and sound conditions.

The program runs over the Internet and requires user registration. See

www.novenco.biz/productmanager.

The fans are supplied with 50 Hz motors as standard, but can also be supplied with 60 Hz motors. Alternatively, they can also be speed controlled by means of frequency inversion with the maximum speeds indicated in the table below.

Nominal RPMs for 50 Hz motors are found in the performance curves on pages 10 through 15.

Thus Novax fans are a serious alternative to centrifugal fans in ventilation and air conditioning systems with varying air flow rate requirements.

Using frequency inverters removes the limitations caused by net frequencies of 50 or 60 Hz. Thus axial fans can virtually always be placed within the maximum efficiency of up to 83%. At the same time the air quantities can of course be regulated, if needed.

Hot smoke fans may, however, not run frequency regulated during fire. The frequency inverter must in this case be bypassed, so that the motor runs at the maximum synchronous RPM. Selection of hot smoke fans with frequency inverters is done based on the synchronous RPM of the motors.

In most cases, the motors are run overfrequently in the range 70 - 80 Hz. This is because of the non-existent fall in power output for the motors in the range 50 - 100 Hz. Additionally, the best performance for the fans is often found in just the overfrequent area.

Investment, operational cost as well as space requirements are lower for Novax fans with the same air technical conditions compared to fans without frequency regulation.

Hub Diameters [mm]	Rotor Diameters [mm]													
	Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Ø160	3865	3865	3865	3865										
Ø230			4000	4000	3865	3575	3275	2980						
Ø280				4012	3755	3536	3230	2930	2571					
Ø330				3977	3686	3448	3215	2973	2660					
Ø380					3674	3397	3097	2859	2651	2324				
Ø403									2179	2025	1885	1730	1575	
Ø578									2128	1957	1804	1685	1595	1410

Maximum RPMs for frequency regulated Novax Rotors ^{1 2 3}

1. All RPMs are at 20 °C.
2. The maximum RPM is reduced at higher and lower temperatures.
3. The maximum RPMs for the motors are considerably higher than those for the rotors – typically 3.600 - 6.000 RPMs.

Type Descriptions

ACN for Installation in Ducts



ACN Axial Fan

The ACN range of axial fans comprises 14 installation sizes with rotor diameters from Ø250 to Ø1600 mm for standard fans and 12 installation sizes with rotor diameters Ø400 to Ø1600 mm for hot smoke. There are seven hub diameter sizes from Ø160 to Ø578 mm for both fan types.

Air flow rates run from 0.1 to 65 m³/s and pressure increases up to 2000 Pa for standard fans and from 0.2 to 65 m³/s with pressure increases up to 1800 Pa for hot smoke.

As hot smoke fans the range is F300 and F400 approved according to EN 12101-3 to run for at least 60 min. at 300 °C and at least 120 min. at 400 °C, respectively.

The fan housing is cylindrical with connection flanges at both ends.

The fan housing has a welded motor mount of sheet steel that also forms a downstream guide vane. This produces an extremely high efficiency.

The housing and motor mount are hot-dip galvanised.

The fan housing has an inspection hatch.

The rotor unit is mounted directly on the spindle of the motor.

The flange pitch diameter, number of holes and hole size are as standard in accordance with EUROVENT 1/2.

Mounting positions are in accordance with EUROVENT for ACN – arrangement D, motor position B. See also section “Calculations” page 26.

The motor is a flange motor, mounted on the outlet side, and is provided with an electrical cable that passes out through the fan housing to a junction box for electrical connection.

The direction of air flow for ACN fans is vane - motor.

ACG for Connection to Ducts



ACG Axial Fan

The ACG range of axial fans comprises 14 installation sizes with rotor diameters from Ø250 to Ø1600 mm for standard fans and 12 installation sizes with rotor diameters Ø400 to Ø1600 mm for hot smoke.

There are seven hub diameter sizes from Ø160 to Ø578 mm for both fan types.

Air flow rates run from 0.1 to 65 m³/s and pressure increases up to 2000 Pa for standard fans and from 0.2 to 65 m³/s with pressure increases up to 2000 Pa for hot smoke.

As hot smoke fans the range is F300 approved according to EN 12101-3 to run for at least 60 min. at 300 °C.

The fan housing is tubular with funnel-shaped inlet for direct air intake and flange-terminated outlet.

The rotor unit is mounted at the inlet with the motor facing the air intake.

The inlet is provided with a guard mesh. A downstream guide vane with a core is mounted on the out-

let side of the rotor, enabling the ACG to achieve a very high efficiency.

The flange pitch diameter, number of holes and hole size are as standard in accordance with EUROVENT 1/2.

Mounting positions are in accordance with EUROVENT for ACG – arrangement B, motor position A. See also section “**Calculations**” page 26.

The motor is a flange motor with electrical connection in the junction box.

The direction of air flow for ACG is motor - vane.

ACP for Wall Mounting



ACP Axial Fan

The ACP range of axial fans comprises 14 installation sizes with rotor diameters from Ø250 to Ø1600 mm for standard fans and 12 installation sizes with rotor diameters Ø400 to Ø1600 mm for hot smoke.

There are seven hub diameter sizes from Ø160 to Ø578 mm for both fan types.

Air flow rates run from 0.1 to 65 m³/s and pressure increases up to 2000 Pa for standard fans and from 0.2 to 65 m³/s with pressure increases up to 2000 Pa for hot smoke.

As hot smoke fans the range is F300 approved according to EN 12101-3 to run for at least 60 min. at 300 °C.

The fan housing is short and tubular with funnel-shaped inlet for direct air intake and flange-terminated outlet.

The rotor unit is mounted at the inlet with the motor facing the air intake.

The inlet is provided with a guard mesh.

The ACP is used for direct air transport through walls/bulkheads.

The flange pitch diameter, number of holes and hole size are as standard in accordance with EUROVENT 1/2.

Mounting positions are in accordance with EUROVENT for ACP – arrangement A, motor position A. See also section “**Calculations**” page 26.

The motor is a flange motor with electrical connection in the junction box.

The direction of air flow for ACP is motor - vane.

Overview of Types and Accessories

Please note the combinations of motors and fans are general. Precise combinations of motors from specific suppliers and fans are available on request to

Novenco or through use of the Novax calculation program found on www.novenco.biz/productmanager.

• = Standard fan ; Δ = Hot smoke fan

Hub Diameters [mm]	Motor Sizes	Rotor Diameters [mm]													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Ø160	71	•	•	•	•										
	80		•	•	•										
	90			• Δ	• Δ										
Ø230	71			•	•	•	•	•	•						
	80			•	•	•	•	•	•						
	90			Δ	• Δ	• Δ	• Δ	• Δ	• Δ						
Ø280	71				•	•	•	•	•	•					
	80				•	•	•	•	•	•					
	90				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
Ø330	100				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
	112				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
	132				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
Ø380	90					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	100					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	112					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	132					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	160					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
Ø403	112									• Δ	• Δ	• Δ	• Δ		
	132									• Δ	• Δ	• Δ	• Δ		
	160									• Δ	• Δ	• Δ	• Δ		
Ø578	180									• Δ	• Δ	• Δ	• Δ		
	200									• Δ	• Δ	• Δ	• Δ		
	225									• Δ	• Δ	• Δ	• Δ		
	250									• Δ	• Δ	• Δ	• Δ		
	280									• Δ	• Δ	• Δ	• Δ		
											• Δ	• Δ	• Δ	• Δ	• Δ

Type ACN

Hub Diameters [mm]	Motor Sizes	Rotor Diameters [mm]													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Ø160	71	•	•	•	•										
	80	•	•	•	•										
	90		•	• Δ	• Δ										
Ø230	71			•	•	•	•	•	•						
	80			•	•	•	•	•	•						
	90			• Δ	• Δ	• Δ	• Δ	• Δ	• Δ						
Ø280	71				•	•	•	•	•	•					
	80				•	•	•	•	•	•					
	90				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
Ø330	100				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
	112				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
	132				• Δ	• Δ	• Δ	• Δ	• Δ	• Δ					
Ø380	90					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	100					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	112					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	132					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
	160					• Δ	• Δ	• Δ	• Δ	• Δ	• Δ				
Ø403	112									Δ	Δ	• Δ	• Δ		
	132									• Δ	• Δ	• Δ	• Δ		
	160									• Δ	• Δ	• Δ	• Δ		
Ø403	180									• Δ ¹	• Δ	• Δ	• Δ	• Δ	

Type ACG and ACP

Hub Diameters [mm]	Motor Sizes	Rotor Diameters [mm]													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Ø578	112														
	132														
	160									• Δ	• Δ	• Δ	•		
	180									• Δ	• Δ	• Δ	• Δ	•	
	200									• Δ	• Δ	• Δ	• Δ	• Δ	
	225									• Δ	• Δ	• Δ	• Δ	• Δ	• Δ
	250										• Δ	• Δ	• Δ	• Δ	• Δ
	280											• Δ	• Δ	• Δ	• Δ

Type ACG and ACP

- Hot smoke fans with hub diameter Ø403, motor size 180 and rotor diameter Ø900 are only made as type ACP.

• = All versions ; ° = Limited number of versions

	ACN	ACG	ACP
Horizontal mounting foot	•	•	•
Vertical mounting foot	•	•	•
Intake funnel with mesh	•		
Mating flange	•	•	•
Duct boss	•	•	•
Welding sockets	•	•	•
Flexible connection	•	•	•
Silencer with or without core	YAH ¹	YAH ¹	YAH ¹
Acoustic diffuser with core	YAD	YAD	YAD
Mesh in pipe (pressure side)	•	•	•
Mesh flange (pressure side)	•		
Brass lining ²	°	°	°
Anti-vibration mountings	•	•	•
Diffuser for outlet	•	•	•
Downstream guide vane ³			•

Accessories for standard and hot Smoke Fans

- A standard clip is used for joining of two silencers type YAH. It is inadvisable to join more than two silencers with standard clips.
- The number of versions where brass lining is possible is among others limited by the blade angle. What versions are offered with brass lining is told on request to Novenco and is also available through use of the calculation program www.novenco.biz/productmanager.
- The ACG is as standard supplied with a downstream guide vane. The ACP can be retrofitted with downstream guide vanes and is then called ACG.

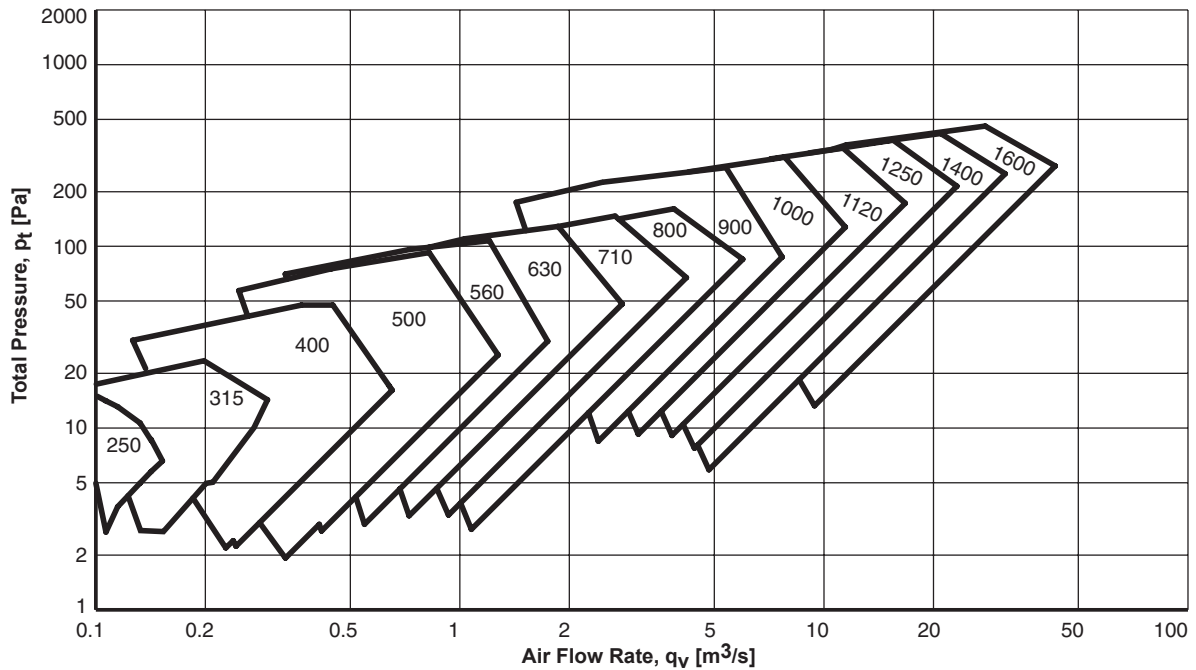
Performance Curves for ACN at 50 Hz

The diagrams indicate the coverage for each of the fan sizes without taking the hub diameter into consideration.

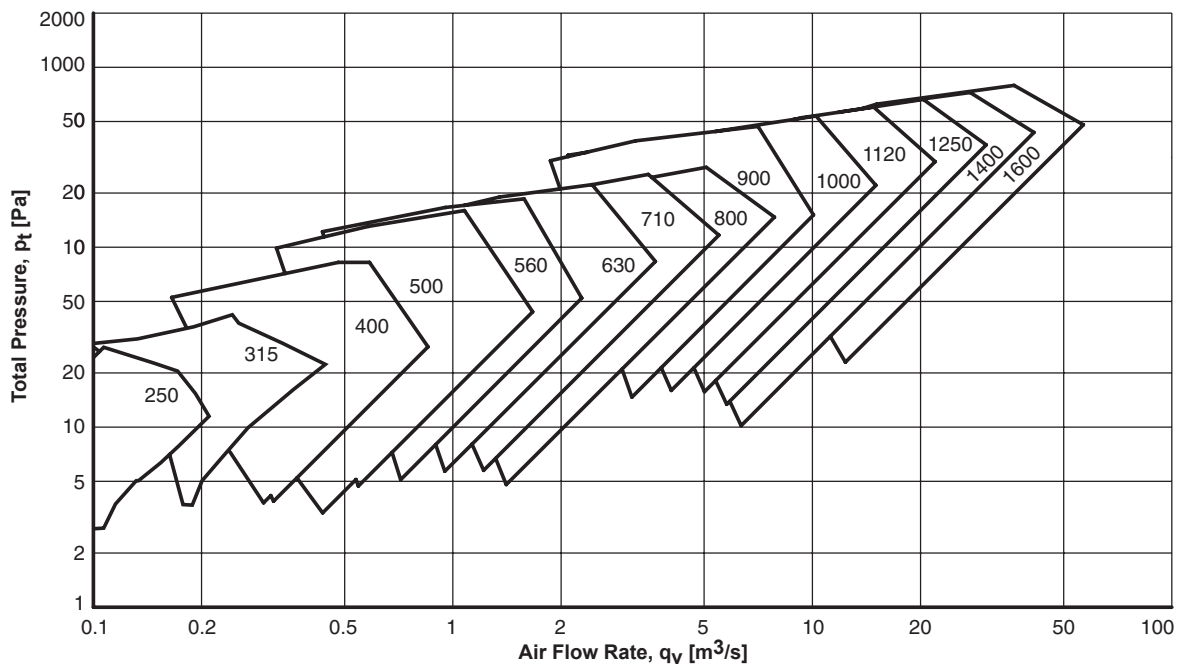
The capacities are based on fan installation in accordance with BS 848 1980, installation type D (duct con-

nection for inlet and outlet). Other installation types yield other data. The air density is $\rho = 1.20 \text{ kg/m}^3$.

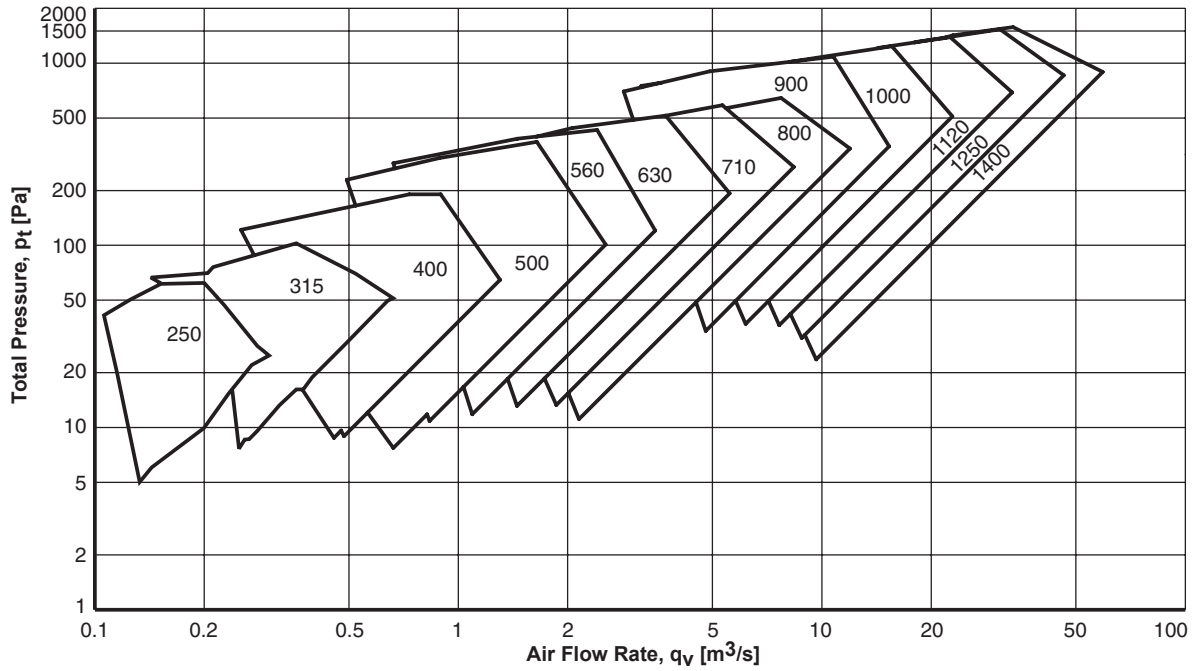
Final dimensioning, including calculation of blade angles, choice of motor, power consumption plus sound calculation, is done on Novenco's web site. See section "Internet Calculation Program" page 4.



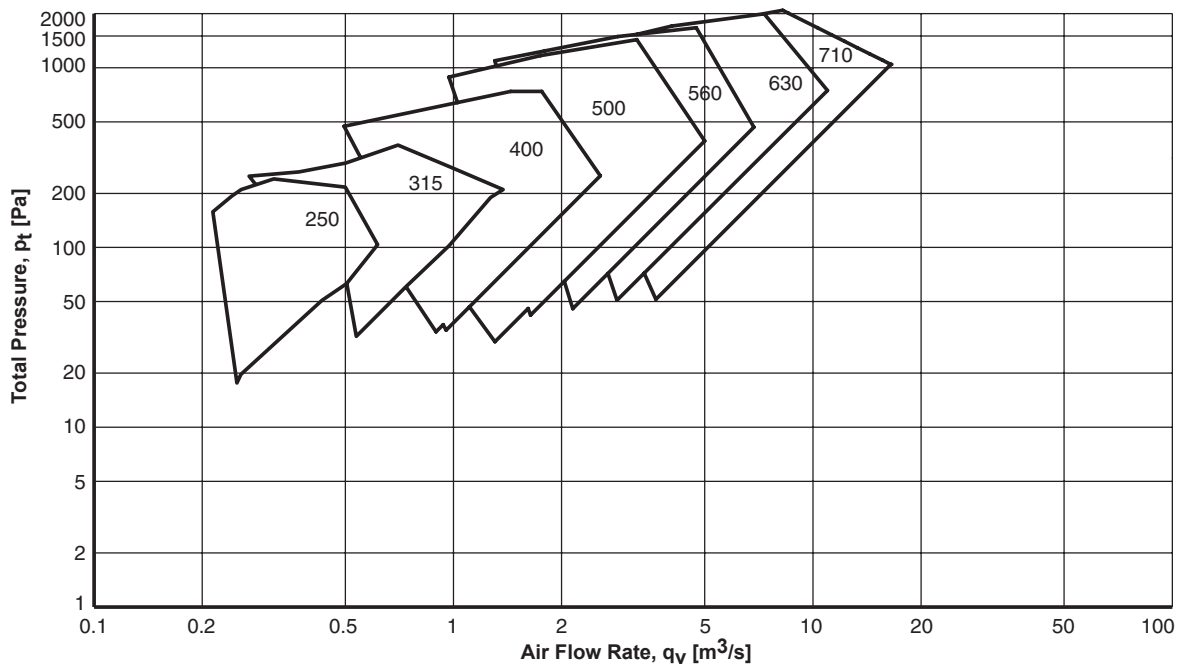
Type ACN – 725 RPM



Type ACN – 970 RPM



Type ACN – 1470 RPM



Type ACN – 2900 RPM

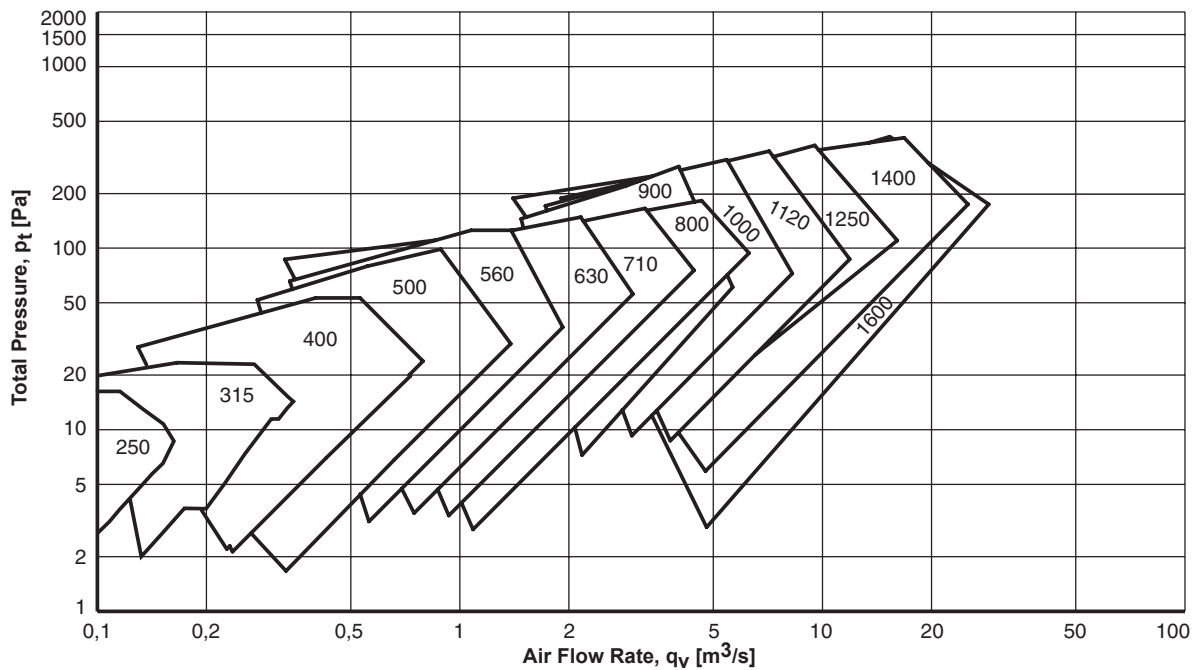
Performance Curves for ACG at 50 Hz

The diagrams indicate the coverage for each of the fan sizes without taking the hub diameter into consideration.

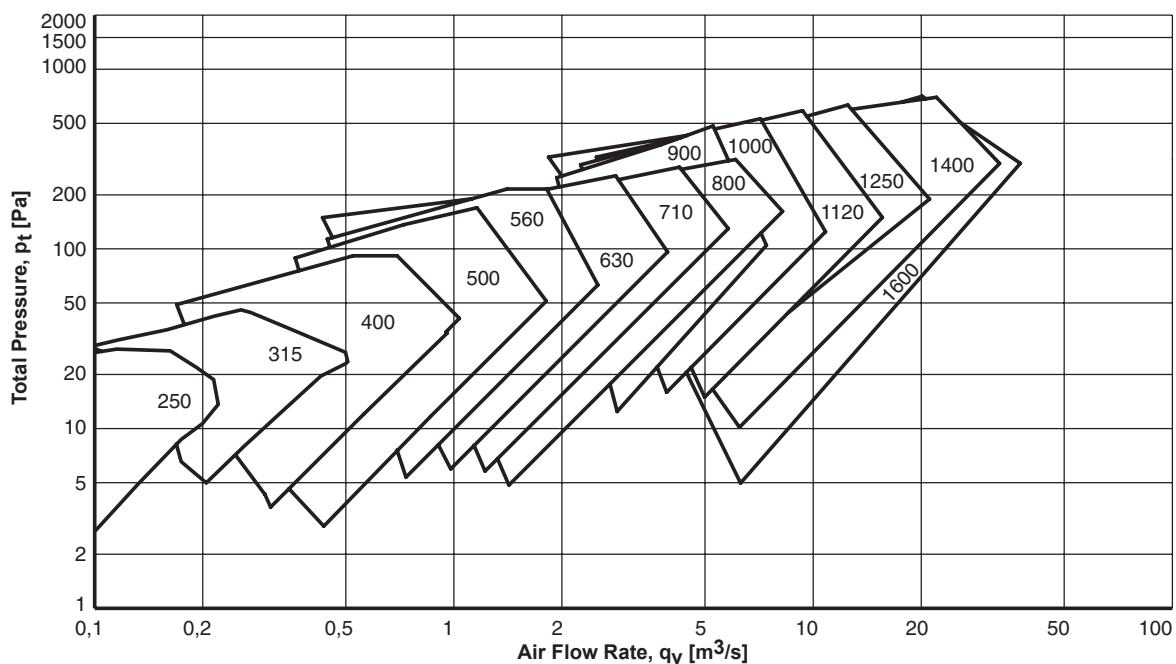
The capacities are based on fan installation in accordance with BS 848 1980, installation type B (free inlet and duct connection for outlet). Other installation

types yield other data. The air density is $\rho = 1.20 \text{ kg/m}^3$.

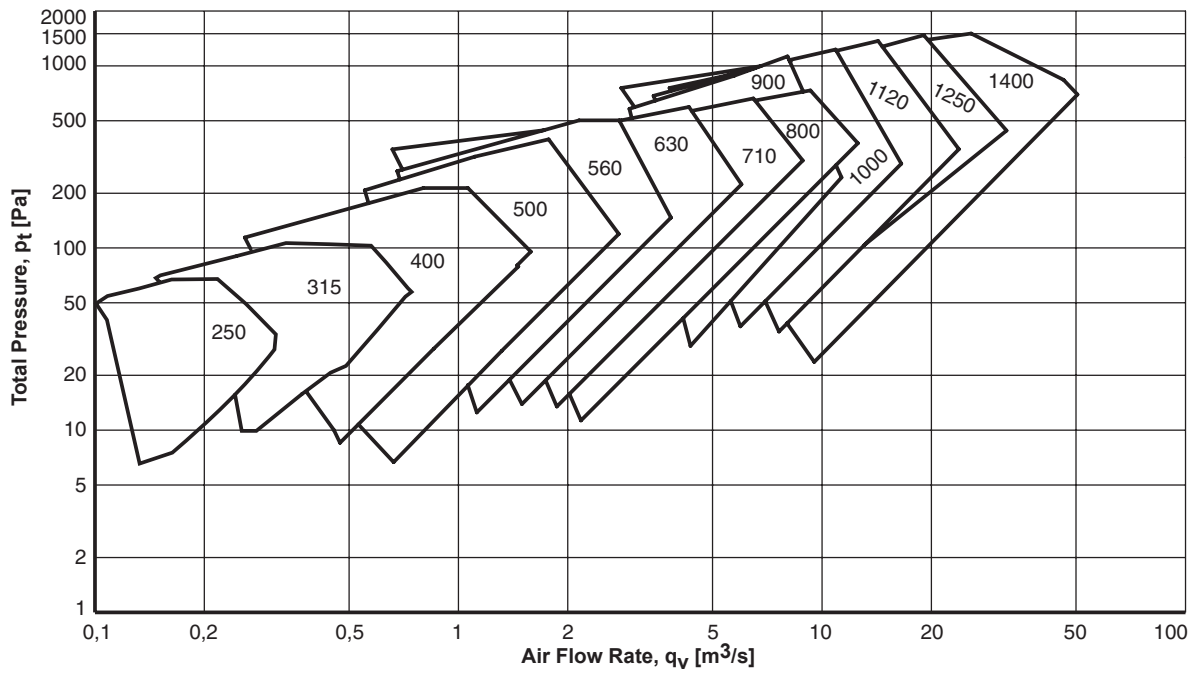
Final dimensioning, including calculation of blade angles, choice of motor, power consumption plus sound calculation, is done on Novenco's web site. See section "Internet Calculation Program" page 4.



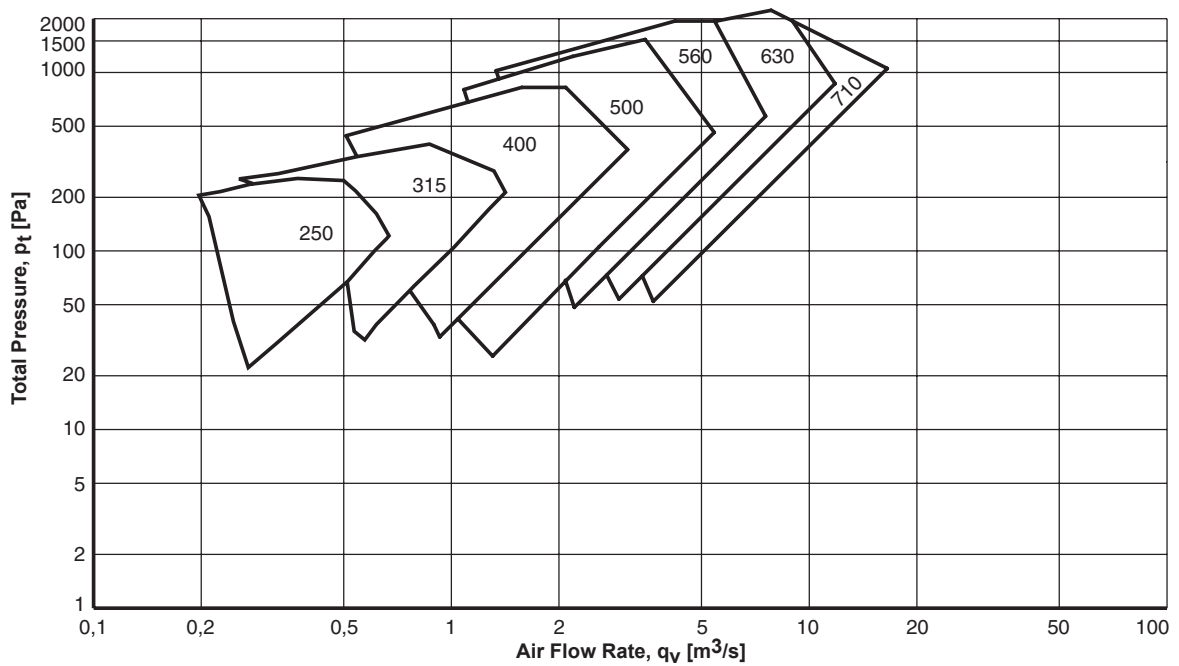
Type ACG – 725 RPM



Type ACG – 970 RPM



Type ACG – 1470 RPM



Type ACG – 2900 RPM

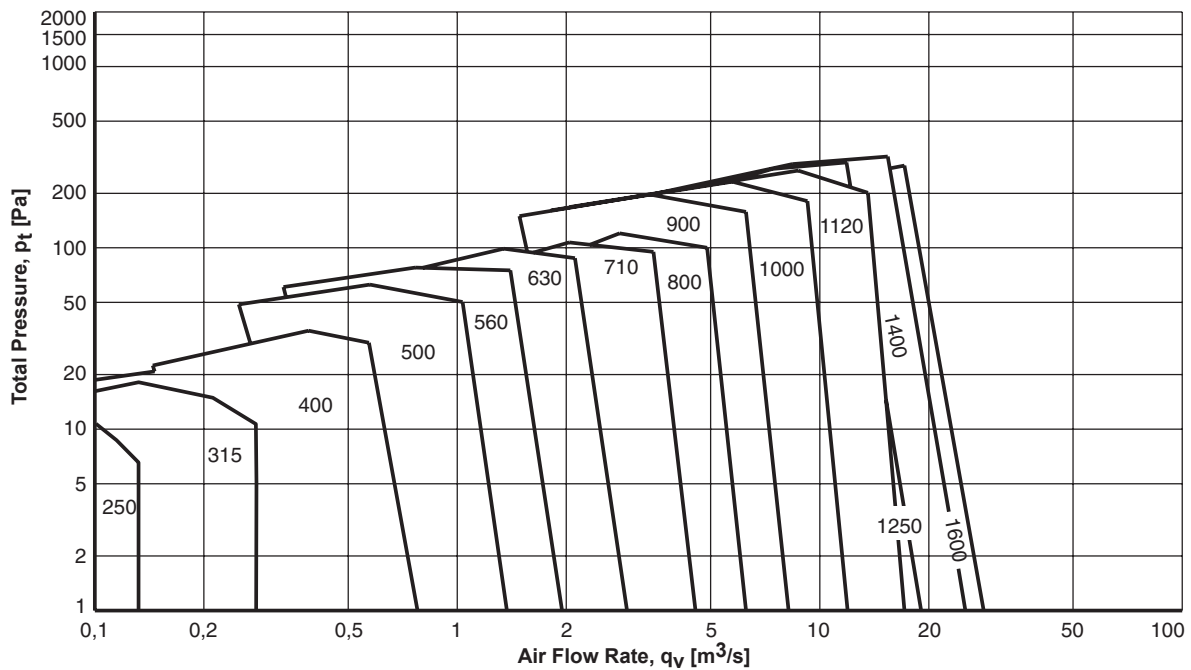
Performance Curves for ACP at 50 Hz

The diagrams indicate the coverage for each of the fan sizes without taking the hub diameter into consideration.

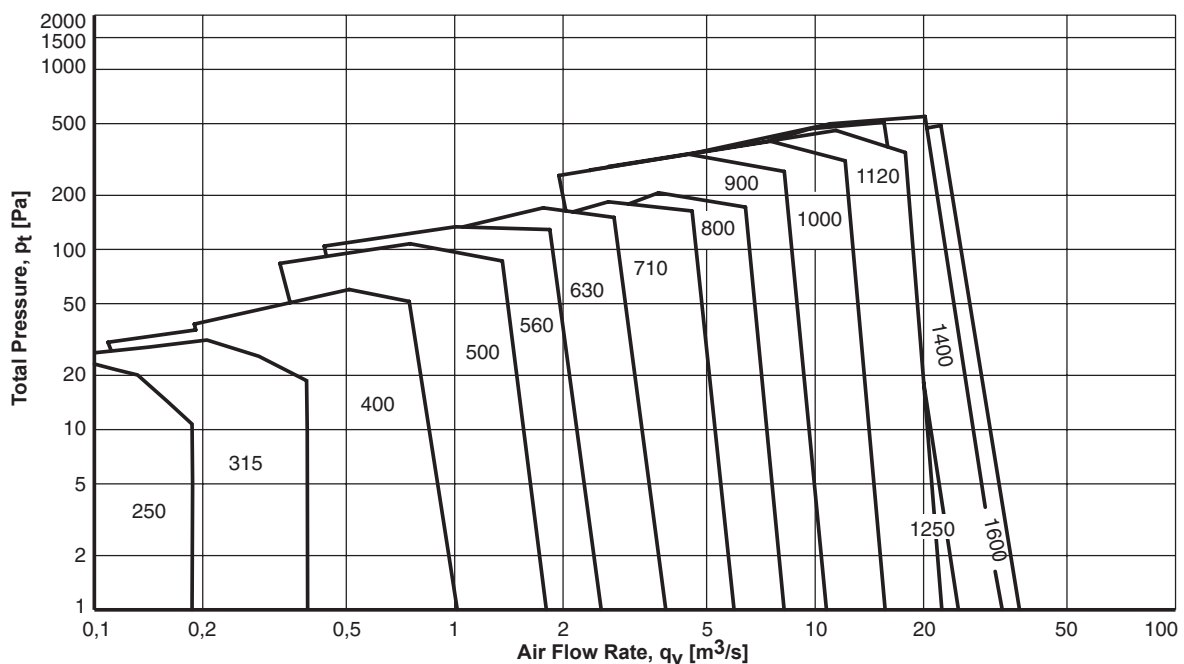
The capacities are based on fan installation in accordance with BS 848 1980, installation type B (free inlet and duct connection for outlet). Other installation

types yield other data. The air density is $\rho = 1.20 \text{ kg/m}^3$.

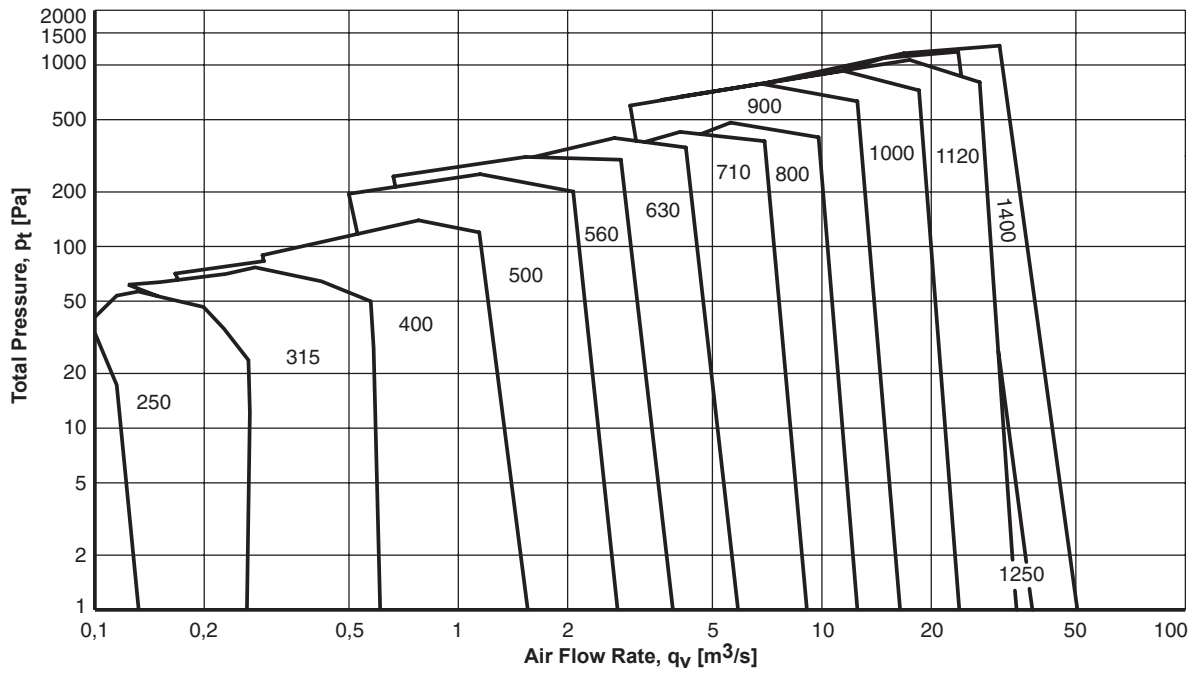
Final dimensioning, including calculation of blade angles, choice of motor, power consumption plus sound calculation, is done on Novenco's web site. See section "Internet Calculation Program" page 4.



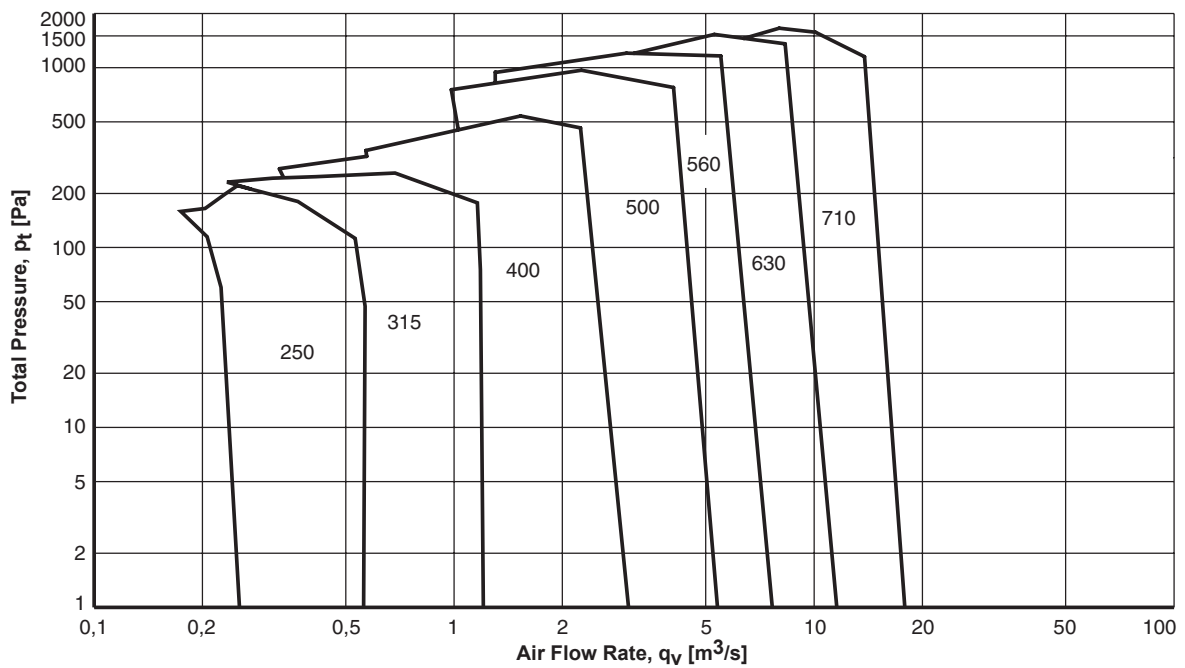
Type ACP – 725 RPM



Type ACP – 970 RPM



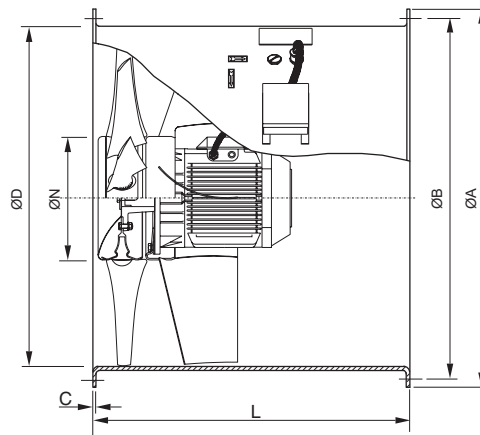
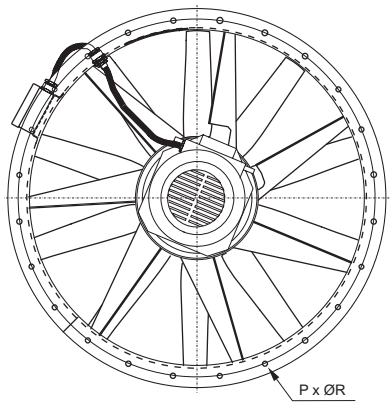
Type ACP – 1470 RPM



Type ACP – 2900 RPM

Dimensions

ACN

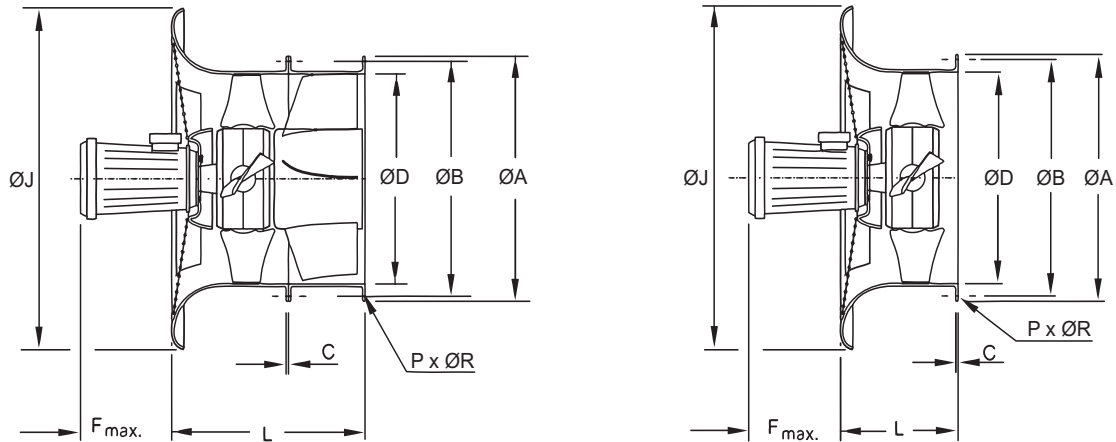


	Hub Diameter ØN	Motor Size	Installation Size (Rotor Diameter)													
			Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
ØA	All	All	310	385	480	590	650	720	800	890	1000	1100	1220	1360	1510	1720
ØB			280	355	450	560	620	690	770	860	970	1070	1190	1320	1470	1680
ØD			250	315	400	500	560	630	710	800	900	1000	1120	1250	1400	1600
P			4	8	8	12	12	12	16	16	16	16	20	20	20	24
ØR			10	10	12	12	12	12	12	12	15	15	15	15	15	19
C	All	All	2	2	3	3	3	3	3	3	3	3&4	3&4	3&4	4	4
L	160-380		360	400	520	560	620	620	730	750	850	900				
Max. weight without motor			11	14	27	42	55	60	73	82	98	134				
L	403	112											650	750		
		132									850	750	650	750	850	
		160									850	750	750	750	850	
		180										900	850	850	850	
Max. weight without motor										117	154	167	184	202		
L	578	132										750	650	750		
		160									850	750	750	750	850	
		180									850	900	850	850	850	
		200										900	950	950	950	900
		225											950	950	950	1120
		250												1060	1120	1120
		280													1120	1120
Max. weight without motor										153	192	219	269	329	366	

Dimensions are in mm.

Weights are in kg.

ACG and ACP



	Hub Diameter ØN	Motor Size	Installation Size (Rotor Diameter)													
			Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
ØA	All	All	310	385	480	590	650	720	800	890	1000	1100	1220	1360	1510	1720
ØB			280	355	450	560	620	690	770	860	970	1070	1190	1320	1470	1680
ØD			250	315	400	500	560	630	710	800	900	1000	1120	1250	1400	1600
P			4	8	8	12	12	12	16	16	16	16	20	20	20	24
ØR			10	10	12	12	12	12	12	12	15	15	15	15	15	19

ACG and ACP

	Hub Diameter ØN	Motor Size	Installation Size (Rotor Diameter)													
			Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
C	All	All	2.5	2.5	3	3	3	3	3	3	3	3¾	3¾	4¾	4	4
ØJ			333	420	545	675	760	840	950	1055	1200	1333	1500	1650	1800	2000
L			350	350	355	355										
F _{Max} ¹	160		197	235	259	259										
Max. weight without motor			13	16	24	30										
L	230-578	All			355	355	410	415	415	410	670 ²	690 ²	715	739	739	739
F _{Max} ¹					250	370	479	544	505	510	494	552	610	579	644	644
Max. weight without motor						26	40	52	57	65	72	139 ³	171 ³	188 ³	234 ³	258 ³

ACG

1. F_{Max} is the maximum dimension based on motor make type ABB.
2. For type ACG-900/280 L = 430 and for ACG-1000/380 L = 450.
3. For hub diameter Ø578 mm. The weight is lower for other L hub diameters

	Hub Diameter ØN	Motor Size	Installation Size (Rotor Diameter)													
			Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
C	All	All	2.5	2.5	3	3	3	3	3	3	3	3¾	3¾	4¾	4	4
ØJ			333	420	545	675	768	840	950	1055	1200	1332	1500	1650	1800	2000
L			200	200	205	205										
F _{Max} ¹	160		197	235	259	259										
Max. weight without motor			9	11	15	19										
L	230-578	All			205	205	260	265	265	260	420 ²	440 ²	465	489	489	489
F _{Max} ¹					250	370	479	544	505	510	494	552	610	579	644	644
Max. weight without motor						18	28	38	42	48	53	106 ³	134 ³	147 ³	188 ³	207 ³

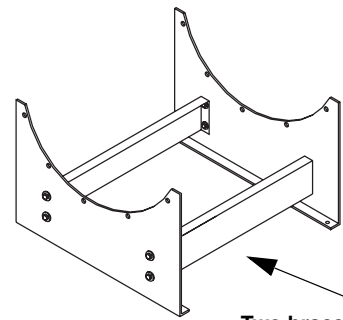
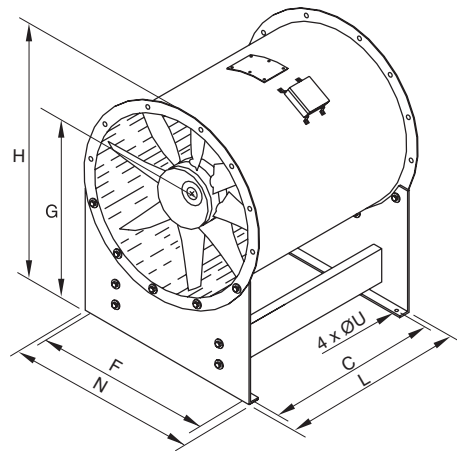
ACP

1. F_{Max} is the maximum dimension based on motor make type ABB.
2. For type ACP-900/280 L = 280 and ACP-1000/380 L = 300.
3. For hub diameter Ø578 mm. The weight is lower for other hub diameters.

Dimensions are in mm.

Weights are in kg.

ACN – Mounting Foot (horizontal)



Two braces from size 630 to 1600

	Installation Size (Rotor Diameter)													
	Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900 ¹	Ø1000 ¹	Ø1120	Ø1250	Ø1400	Ø1600
G	240	280	330	390	440	480	530	580	680	740	800	850	925	1025
H	395	473	570	685	765	840	930	1025	1180	1290	1410	1530	1680	1885
C ²	296	336	454	494	554	554	664	684	794 / 784	834 / 832	882	992	1052	1052
L ²	360	400	520	560	620	620	730	750	860	900	950	1060	1120	1120
F ²	170	200	250	325	370	400	450	520	590	680 / 670	750	810	920	1060
N	260	290	360	435	480	530	580	650	720	800	880	980	1090	1230
ØU	8	8	8	10	12	12	12	12	12	12	14	14	14	14
Weight	1.5	2.8	3.8	4.4	7.2	11.4	13.2	14.9	21.0	23.5	26.0	32.6	34.6	46.5

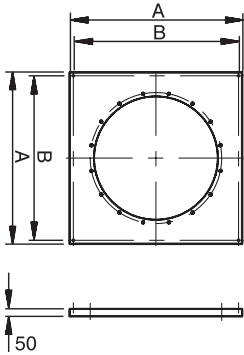
1. Where C and F dimensions depend on the hub diameter, the values for hub diameters Ø230 - Ø380 are on the left and for the hub diameters Ø403 - Ø573 on the right.

2. The specified data is based on maximum pipe length. Other pipe lengths have other data.

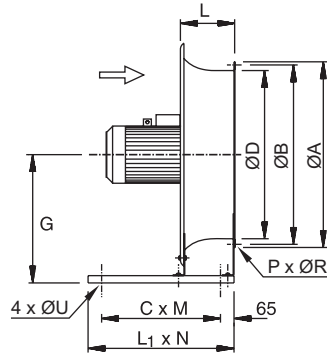
Dimensions are in mm.

Weights are in kg.

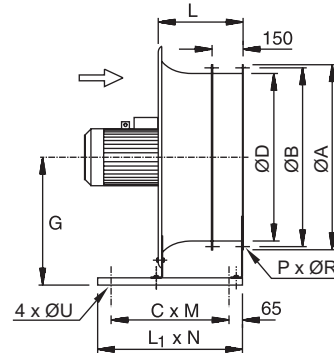
ACG and ACP – Mounting Feet and Diffusers



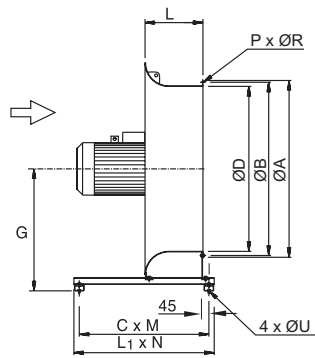
Mounting plate for vertical installation of fans



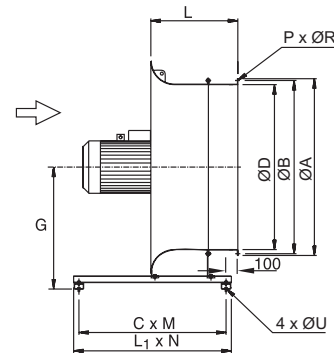
Mounting foot for ACP
Hub size 160 - 380



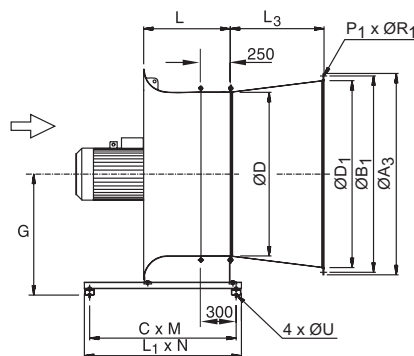
Mounting foot for ACG
Hub size 160 - 380



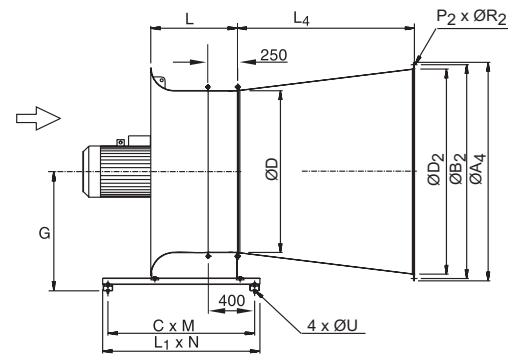
Mounting foot for ACP
Hub sizes 403 and 578



Mounting foot for ACG
Hub sizes 403 and 578



Mounting foot for ACG with short diffuser – Hub sizes 403 and 578



Mounting foot for ACG with long diffuser – Hub sizes 403 and 578

The ØA , ØB , ØD , L , P and ØR dimensions are found on pages 16 to 17. Other dimensions are found on the next page.

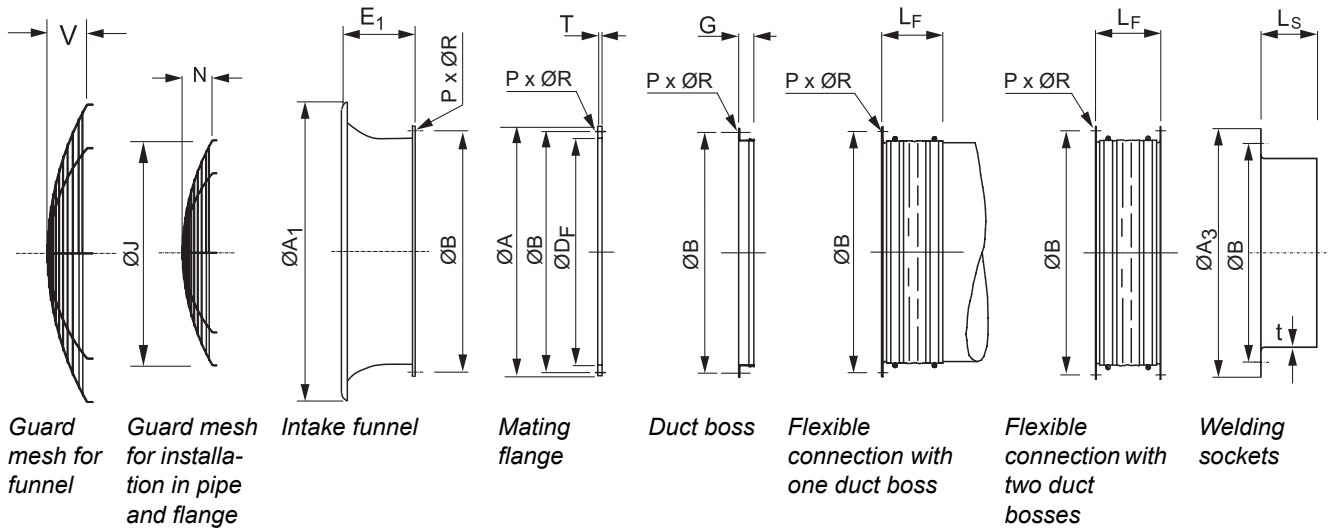
		Installation Size (Rotor Diameter)													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900 ¹	Ø1000 ¹	Ø1120	Ø1250	Ø1400	Ø1600
Mounting plates	A	580	645	730	830	890	960	1040	1130	1230	1330	1450	1580	1730	1930
	B	530	595	680	780	840	910	990	1080	1180	1280	1400	1530	1680	1880
	Weight	7.8	8.9	10.4	12.4	13.6	15.1	20.1	22.6	33.5	37.4	42.1	47.5	68	79
Mounting feet, horizontal, for ACP	G	275	315	365	425	475	515	565	615	790	850	910	960	1035	1135
	C	420	420	420	420	420	570	570	570	1000	1000	1120	1120	1250	1250
	M	170	200	250	325	370	400	450	520	900	1000	1120	1250	1400	1600
	L ₁	550	550	550	550	550	700	700	700	1090	1090	1210	1210	1340	1340
	N	260	290	360	435	480	530	580	650	990	1090	1210	1340	1490	1690
	ØU	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Weight	5.7	5.7	5.7	6.3	8.5	10.2	11.2	12.2	50.9	53.1	61.8	62.1	68.6	76.7
Mounting feet, horizontal for ACG	G	275	315	365	425	475	515	565	615	790	850	910	960	1035	1135
	C	420	420	420	420	420	570	570	570	1000	1000	1120	1120	1250	1250
	M	170	200	250	325	370	400	450	520	900	1000	1120	1250	1400	1600
	L ₁	550	550	550	550	550	700	700	700	1090	1090	1210	1210	1340	1340
	N	260	290	360	435	480	530	580	650	990	1090	1210	1340	1490	1690
	ØU	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Weight	5.7	5.7	5.7	6.3	8.5	10.2	11.2	12.2	50.9	53.1	61.8	62.1	68.6	76.7
Mounting feet, horizontal, for ACG with short diffusers	G									790	850	910	960	1035	1135
	C									1120	1120	1250	1250	1250	1250
	M									900	1000	1120	1250	1400	1600
	L ₁									1210	1210	1340	1340	1340	1340
	N									990	1090	1210	1340	1490	1690
	ØU									12	12	12	12	12	12
Weight									52.4	57.2	61.8	63.8	68.6	76.7	
Short diffusers	L ₃									400	500	560	600	800	800
	ØD ₁									1000	1120	1250	1400	1600	1800
	ØB ₁									1070	1190	1320	1470	1680	1880
	ØA ₃									1103	1223	1363	1513	1723	1923
	P ₁									16	20	20	20	24	24
	ØR ₁									15	15	15	15	19	19
	Weight									33	40	48	57	77	86
Mounting feet, horizontal, for ACG with long diffusers	G									790	850	910	960	1035	1135
	C									1120	1120	1250	1250	1250	1250
	M									900	1000	1120	1250	1400	1600
	L ₁									1210	1210	1340	1340	1340	1340
	N									990	1090	1210	1340	1490	1690
	ØU									12	12	12	12	12	12
Weight									52.4	57.2	61.8	63.8	68.6	76.7	
Long diffusers	L ₄									900	1000	1100	1400	1600	1600
	ØD ₂									1120	1250	1400	1600	1800	2000
	ØB ₂									1190	1320	1470	1680	1880	2080
	ØA ₄									1223	1363	1513	1723	1923	2123
	P ₂									20	20	20	24	24	24
	ØR ₂									15	15	15	15	19	19
Weight									52	62	74	102	123	139	

1. Does not apply to hub diameters Ø403 and Ø578 mm. Request separate dimensional sketches for these diameters.

Dimensions are in mm.

Weights are in kg.

Meshes, Flanges, Bosses etc. for all Novax Types

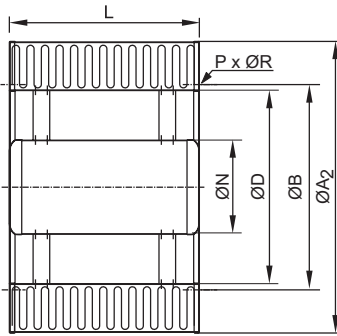


		Installation Size (Rotor Diameter)													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Guard meshes	V	29	43	68	55	69	87	111	137	85	106	133	133	171	218
	Weight	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.1	2.5	3.0	3.6	3.6	4.2	5.7
Guard meshes for installation in pipes	N	19	29	43	68	88	55	69	87	111	137	85	106	133	171
	ØJ	246	310	396	496	556	626	706	796	896	996	1114	1244	1394	1594
Guard meshes for installation on flanges	N	29	43	68	88	55	69	87	111	137	85				
	ØJ	310	396	496	556	626	706	796	896	996	1114				
Intake funnels	E ₁	200	200	205	205	260	265	265	260	280	300	320	320	320	320
	ØA ₁	333	420	545	675	760	840	947	1055	1200	1333	1520	1650	1800	2000
Mating flanges	T	4	4	4	4	4	4	4	4	8	8	8	8	8	8
	ØD _F	260	325	410	510	570	640	720	810	910	1010	1130	1260	1410	1610
Duct bosses	G	55	55	55	55	55	55	55	55	85	85	85	85	85	85
	Weight	1.0	1.4	1.9	2.4	2.7	3.1	3.5	3.9	5.9	6.6	7.4	8.5	9.5	11.3
Flexible connections	L _F	Min. 65 mm - Max. 100 mm							Min. 110 mm - Max. 175 mm						
	Weight w.1 boss	1.3	1.7	2.3	3.0	3.5	3.8	4.3	5.0	7.8	8.9	10.0	11.6	13.1	20.0
Flexible connections	L _F	Min. 120 mm - Max. 145 mm							Min. 210 mm - Max. 250 mm						
	Weight w.2 bosses	2.3	3.0	4.2	5.5	6.2	6.9	7.8	8.8	13.7	15.5	17.4	20.2	22.7	26.6
Welding sockets	L _S	100	100	100	100	100	120	120	120	120	150	150	150	150	150
	t	4	4	4	4	4	6	6	6	6	6	6	6	6	6
	ØB	280	355	450	560	620	690	770	860	970	1070	1190	1320	1470	1680
	ØA ₃	310	385	480	590	650	720	800	890	1000	1100	1220	1360	1510	1720
Weight	3.1	3.9	5.4	6.7	7.5	15.0	16.9	19.0	21.4	29.0	32.4	36.2	40.5	46.3	

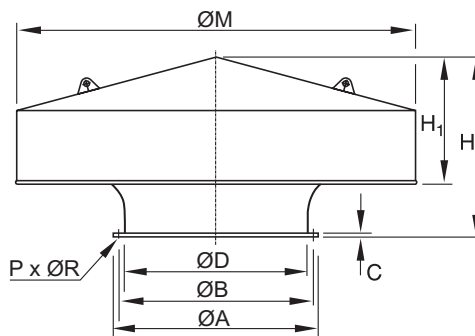
Dimensions are in mm.
Weights are in kg.

The ØA and ØR dimensions are found on pages 16 and 17.

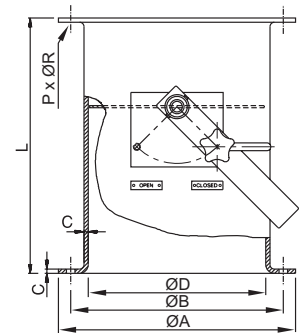
Silencers, Hoods and Dampers



Silencer Type YAH



Hood Type HAN



Damper Type SBC

		Installation Size (Rotor Diameter)													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
All	ØD	250	315	400	500	560	630	710	800	900	1000	1120	1250	1400	1600
	ØB	280	355	450	560	620	690	770	860	970	1070	1190	1320	1470	1680
	ØA	310	385	480	590	650	720	800	890	1000	1100	1220	1360	1510	1720
	P (number)	4	8	8	12	12	12	16	16	16	16	20	20	20	24
	ØR	10	10	12	12	12	12	12	12	15	15	15	15	15	19
Silencers type YAH	L	250	315	400	500	560	630	710	800	900	1000	1120	1250	1400	1600
	ØN	125	160	200	250	280	315	355	400	450	500	560	578	578	578
	ØA ₂	463	526	614	715	775	845	925	1015	1115	1215	1335	1463	1613	1831
	ØR	M8	M8	M10	M10	M10	M10	M10	M10	M12	M12	M12	M12	M12	M16
	Weights without core	6.2	8.9	12.5	19.1	22.8	27.6	33.8	41.3	50.6	61.1	74.5	140	168	192
	Weights with core	7.9	11.5	16.8	26.5	32.8	40.8	52.1	69.2	86.8	109.6	134.4	170	205	247
Hoods type HAN	H	361	412	476	540	641	694	744	811	868	890	1140	1252	1402	1602
	H ₁	180	228	290	364	405	450	506	569	645	710	800	853	983	1153
	ØM	598	724	906	1106	1266	1406	1586	1766	2016	2236	2436	2810	3110	3510
	C	2.5	2.5	3	3	3	3	3	3	3	3	3	4	4	4
	Weights	13	19	40	58	79	97	120	151	206	250	313	625	776	1020
Dampers type SBC	L	360	400	520	560	620	670	730	810	910	1010	1130	1250	1400	
	C	2	2	3	3	3	3	3	3	3	4	4	5	6	
	Weights	9.5	12.5	24	32	41.5	49	63	86	107	164	200	274	386	

Dimensions are in mm.

Weights are in kg.

Technical Data for Silencer YAH

YAH – Pressure Loss

Without core: Insignificant

With core: $0.2 \times p_{dF}$

Two YAH in tandem: $0.35 \times p_{dF}$ (dynamic pressure)

Inlets on ACN use silencers without cores

Example

YAH-800 with core

Air flow rate, $q_v = 5 \text{ m}^3/\text{s}$

Air speed, inlet = 10 m/s

$p_{dF} = 60 \text{ Pa}$

Pressure loss: $0.2 \times 60 \text{ Pa} = 12 \text{ Pa}$

Average Values for Silencing

Type	Octave Band [Hz]							
	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1k [dB]	2k [dB]	4k [dB]	8k [dB]
Without core	0	1	10	13	11	9	7	7
With core	2	4	10	17	17	15	12	11

Acoustic Diffuser Type YAD

Acoustic diffusers type YAD are standard products for use in normal installations for comfort and industrial ventilation.

The YAD is available in 14 sizes from Ø250 to Ø1600 mm and with cores in seven sizes from Ø160 to Ø578 mm fitted according to the hub sizes in the Novax range.

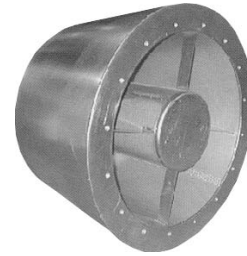
Environment

Acoustic diffusers type YAD are designed for the temperature range: -40 to +120 °C.

The basic version is, in terms of materials, designed to operate in the environmental categories C1, C2 and C3 as formulated in DS/EN ISO 12944.

In connection with an itemised tender, fans can be supplied with improved surface treatment for use in corrosion class C4.

Please note that sound data and silencing values are based on measurements with the Novax axial flow fan type ACG.

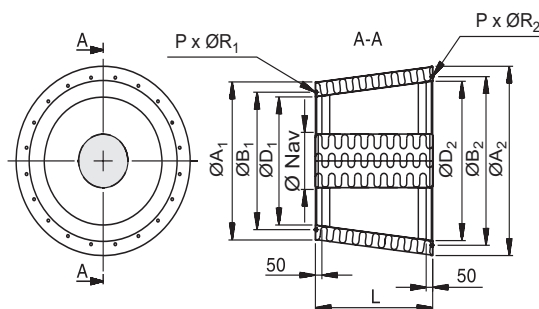


Acoustic Diffuser Type YAD

External Diameter [mm]	Hub Diameter [mm]	Octave Band [Hz]															
		63		125		250		500		1k		2k		4k		8k	
		Core		Core		Core		Core		Core		Core		Core		Core	
		Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]	Without [dB]	With [dB]
250	160	1	1	0	1	2	2	8	9	5	11	1	11	1	8	2	5
315	160	1	1	0	1	2	2	8	9	5	11	1	11	1	8	2	5
400	160	0	0	0	2	3	3	11	12	6	11	1	11	1	7	1	4
500	160	0	0	1	1	4	4	11	10	7	12	3	10	3	6	2	4
400	230	0	0	0	2	2	2	10	11	8	14	3	13	3	10	3	6
500	230	0	0	0	2	9	9	11	12	7	12	3	12	2	8	2	5
560	230	0	0	1	1	4	4	12	12	8	13	4	11	4	7	3	5
630	230	0	0	2	2	5	5	13	13	8	13	4	10	3	6	3	5
710	230	0	1	3	3	6	6	13	13	9	12	4	9	3	6	3	5
800	230	0	0	1	1	8	8	14	14	7	12	4	9	3	6	2	4
500	280	0	0	0	2	2	2	11	12	9	15	5	15	4	11	4	7
560	280	0	0	0	2	10	10	12	13	7	12	3	13	3	9	2	5
630	280	0	0	1	1	4	4	12	12	8	14	5	11	4	7	3	5
710	280	0	0	3	3	7	7	14	14	10	13	5	9	4	7	3	5
800	280	0	0	1	1	9	8	15	15	8	13	5	10	3	6	3	4
900	280	1	1	3	3	7	7	13	13	5	11	2	7	3	6	4	5
500	330	0	0	0	2	3	3	14	15	12	18	8	18	6	13	5	8
560	330	0	0	0	3	4	4	16	17	11	16	6	16	4	10	3	6
630	330	0	0	0	2	10	10	12	13	8	13	4	13	3	9	3	5
710	330	0	1	2	2	5	5	15	15	10	15	5	12	4	7	3	5
800	330	0	1	3	3	7	7	15	15	10	14	5	10	4	7	4	5
900	330	0	0	1	1	9	9	15	15	8	14	5	10	4	7	3	4
560	380	0	0	0	2	3	3	14	15	13	19	8	18	7	14	5	8
630	380	0	0	1	2	11	11	13	15	9	15	6	15	4	11	3	6
710	380	0	0	1	1	5	5	15	14	11	16	6	13	5	9	4	6
800	380	0	1	3	3	8	8	16	16	12	15	6	11	5	7	4	6
900	380	0	0	1	1	9	9	16	16	9	15	6	11	4	7	3	5
1000	380	1	1	3	3	7	7	14	14	6	11	3	8	4	6	4	6
900	403	0	0	1	1	10	10	17	17	10	15	6	11	4	7	3	5
1000	403	1	1	4	4	7	7	15	15	6	12	3	8	4	7	4	6
1120	403	1	1	3	3	7	7	11	14	6	11	4	8	4	6	4	5
1250	403	1	2	2	2	7	7	5	9	4	10	4	7	4	6	3	5
1400	403	1	2	2	2	7	7	5	8	4	9	3	7	4	5	3	4
900	578	0	0	1	1	6	6	18	18	15	20	10	16	7	11	5	7
1000	578	0	0	4	4	9	9	19	19	14	18	8	13	6	9	5	7
1120	578	0	0	1	1	11	11	19	19	12	17	8	13	5	8	4	5
1250	578	1	1	4	4	8	8	13	16	7	13	5	9	5	7	5	6
1400	578	1	2	3	3	8	8	6	10	5	11	5	8	5	6	4	5
1600	578	1	2	3	3	8	8	6	9	5	10	4	8	4	6	4	5

Silencing Values for YAD

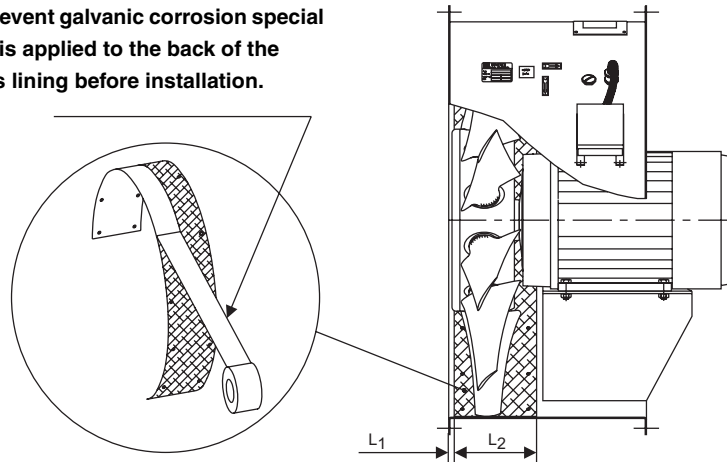
Dimensions and Weights for YAD



	Size	Hub [mm]	Fan Side				Duct Side				L [mm]	Weight [kg]
			ØA ₁ [mm]	ØB ₁ [mm]	ØD ₁ [mm]	P x ØR ₁ [Qty. x mm]	ØA ₂ [mm]	ØB ₂ [mm]	ØD ₂ [mm]	P x ØR ₂ [Qty. x mm]		
	250	160	463	280	253	4 x M8	614	450	404	8 x M10	250	12
	315		526	355	318	8 x M8	716	560	504	12 x M10	315	17.5
	400		614	450	404	8 x M8	776	620	564	12 x M10	400	23
	500		716	560	504	12 x M10	846	690	634	12 x M10	500	30.5
Novax	400	230	614	450	404	8 x M10	776	620	564	12 x M10	400	24.5
	500	230	716	560	504	12 x M10	846	690	634	12 x M10	500	32.5
		280										34
		330										40
	560	230	776	620	564	12 x M10	926	770	714	16 x M10	560	40
		280										41.5
		330										44
		380										46.5
	630	230	846	690	634	12 x M10	1011	860	804	16 x M10	630	46
		280										40
330		51.5										
380		56										
710	230	926	770	714	16 x M10	1116	960	904	16 x M12	710	62	
	280										64	
	330										70.5	
	380										73	
800	230	1016	860	804	16 x M10	1216	1070	1004	16 x M12	800	77	
	280										79.5	
	330										83	
	380										86.5	
900	280	1116	970	904	16 x M12	1336	1190	1124	20 x M12	900	94.5	
	330										98.5	
	380										108.5	
	1000	380	1216	1070	1004	16 x M12	1466	1320	1254	20 x M12	1000	122
	900	403	1116	970	904	16 x M12	1336	1190	1124	20 x M12	900	116
		578										132
	1000	403	1216	1070	1004	16 x M12	1466	1320	1254	20 x M12	1000	138
	1120	403	1333	1190	1124	20 x M12	1613	1470	1404	20 x M12	1120	154
		578										129.5
	1250	403	1466	1320	1254	20 x M12	1816	1680	1604	24 x M12	1250	193
1400	403	1613	1460	1404	20 x M12	2013	1880	1804	24 x M12	1400	248	
	578										274	
1600	578	1816	1680	1604	24 x M12	2216	2080	2004	24 x M12	1600	320	

Brass Lining for ACN

To prevent galvanic corrosion special tape is applied to the back of the brass lining before installation.



		Installation Sizes (Rotor Diameters)													
		Ø250	Ø315	Ø400	Ø500	Ø560	Ø630	Ø710	Ø800	Ø900	Ø1000	Ø1120	Ø1250	Ø1400	Ø1600
Brass lining Hub 160-380	L ₁	14	14	14	14	14	14	14	14	14	14				
	L ₂	150	150	150	150	150	150	150	150	150	150				
	S _{Min.} ¹	1.7	2.0	3.0	4.0	4.5	5.5	5.5	5.5	5.5	6.5				
	Weights	1	1.3	1.6	2.0	2.2	2.5	2.9	3.2	3.6	4.0				
Brass lining Hub 403 and 578	L ₁									24	24	24	24	24	24
	L ₂									212	212	212	212	212	212
	S _{Min.} ¹									5.5	6.5	7.5	8.5	9.0	9.0
	Weights									5.1	5.7	6.3	7.1	8.0	9.1

1. S_{Min.} is the minimum blade clearance of the rotor along the circumference of the casing.

Calculations

Basis

Novax fans are dimensioned to correspond to the natural installation methods of the fans, as shown in the following arrangements A, B, C and D.

If the fan types ACN and ACG are installed with free outlets (arr. C.), the entire speed energy is lost.

Fitting a diffuser on the outlet side recovers some of the dynamic loss caused by lowering the air speed to static pressure. Thus fan efficiency is improved.

The diffusers for the Novax fans are designed to achieve optimal recovery of the dynamic energy.

A-Value

This correction value is for use in arrangements A and C and is found with the Novax calculation program or via www.novenco.biz/productmanager.

The value is a loss factor which is multiplied with the dynamic pressure P_{dF} and added to the static pressure P_{sF} at free outlets or at duct dimensions larger than the fan outlet.

The A-value is furthermore related to the speed loss (Δp_d) resulting from the difference in air speed between the net inlet area and the total outlet area.

The effect of the a-value is reduced if a diffuser is mounted on the outlet side.

For fans with duct connections on the outlet and otherwise unchanged dimensions (arr. B and D) the a-value is included in the performance data and no correction is necessary.

	Symbols	Units	Formula
Mass flow	q_m	kg/s	
Air quantity, volume flow	q_v	m ³ /s	$\frac{q_m}{\rho}$
Inlet diameter	D_1	mm	
Outlet diameter	D_2	mm	
Density	ρ	kg/m ³	
Flow area	A	m ²	
Mean speed of plane	c_x	m/s	$\frac{q_v}{A_x}$

Designations and Definitions

	Symbols	Units	Formula
Static pressure of plane	p_{sx}	Pa	
Dynamic pressure of plane	p_{dx}	Pa	$0.5 \rho \times c^2$
Total pressure of plane	p_{tx}	Pa	$p_{sx} + p_{dx}$
Total pressure of fan	p_{tF}	Pa	
Dynamic pressure of fan	p_{dF}	Pa	$0.5 \rho \times c_2^2$
Static pressure of fan	p_{sF}	Pa	$p_{tF} - p_{dF}$
System loss	p_t	Pa	
Power consumption	P	kW	
Correction value	a		

Designations and Definitions

Examples

Fan type ACG

1470 RPM with free outlet

$q_v = 20 \text{ m}^3/\text{s}$; $p_s = 500 \text{ Pa}$

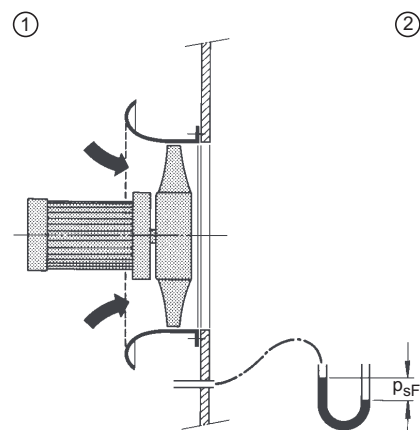
Via www.novenco.biz/productmanager is found

- ACG-1250 / 403-6-42°
Required power with and without long diffuser is 14.7 and 17.5 kW, respectively. Hence, 2.8 kW is saved by mounting a long diffuser.
- ACG - 1400 / 403-6-38°
Required power with and without long diffuser is 14.2 and 15.8 kW, respectively. Hence, 1.6 kW is saved by mounting a long diffuser.

Free Inlet and Outlet

Type ACP (Arrangement A)

$$P_{sF} = P_{s2} - P_{t1}$$



Formulas for Pressure

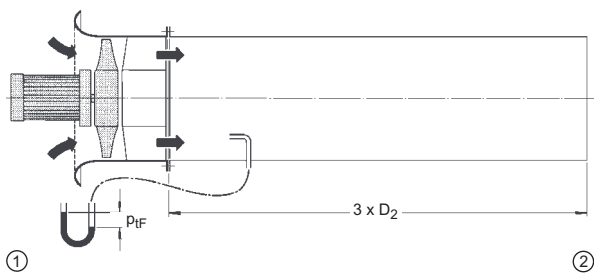
$$\begin{aligned}
 P_{tF} &= P_{t2} - P_{t1} \\
 &= P_{s2} + P_{d2} - (P_{s1} + P_{d1}) \\
 &= (P_{s2} - P_{s1}) + (P_{d2} - P_{d1}) \\
 P_{sF} &= P_{tF} - P_{dF} \quad (\text{Definition})
 \end{aligned}$$

All inlet sizes of the fan are designated by subindex 1 and all outlet sizes by subindex 2.

Free Inlet and Duct on Outlet

Type ACG (Arrangement B)

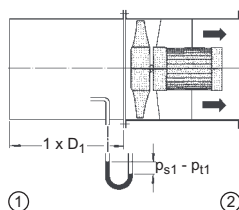
$$\begin{aligned}
 P_{tF} &= P_{t2} - P_{t1} \\
 &= (P_{s2} + P_{d2}) - (P_{s1} + P_{d1})
 \end{aligned}$$



Duct on Inlet and free Outlet

Type ACN (Arrangement C)

$$\begin{aligned}
 P_{tF} &= P_{t2} - P_{t1} \\
 &= P_{s2} + a \times P_{d2} - (P_{s1} + P_{d1})
 \end{aligned}$$

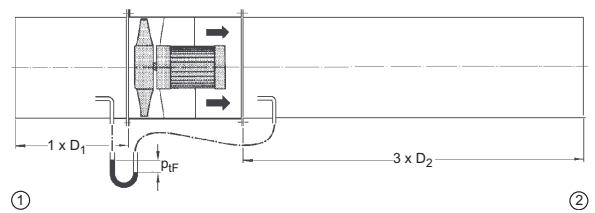


Duct on Inlet and Outlet

Type ACN (Arrangement D)

$$\begin{aligned}
 P_{tF} &= P_{t2} - P_{t1} \\
 &= (P_{s2} - P_{s1}) + (P_{d2} - P_{d1})
 \end{aligned}$$

if $P_{d2} = P_{d1}$; then $P_{tF} = P_{s2} - P_{s1}$.



Run up Time

The run up time of the axial flow fan is calculated with the following formula.

$$t_s = \frac{0.24 \times n^2 \times (I_m + I_v)}{10^4 \times P \left\{ \frac{M_s}{M} + \frac{M_k}{M} - \frac{P_v}{P} \right\}} \quad \text{where}$$

t_s = Run up time [s]

P = Rated output of motor [kW]

P_v = Required power of fan [kW]

n = Fan speed [RPM]

$\frac{M_s}{M}$ = The ratio between the starting torque of the motor and the nominal torque

$\frac{M_k}{M}$ = The ratio between the maximum torque of the motor and the nominal torque

I_v = Polar moment of inertia for the fan [kgm²]

I_m = Polar moment of inertia for the motor [kgm²]

According to international standards the torque of the motor can vary within the following limits.

M_s : -15% + 25% of the catalogue value

M_k : -10% + 0% of the catalogue value

The above factors may increase the run up time more than calculated.



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.

Novenco, Hi-Pres and XFlow are registered trademarks of Novenco.

Read more about Novenco on the Internet.