



Building & Industry



SCHAKO Group

Product Portfolio

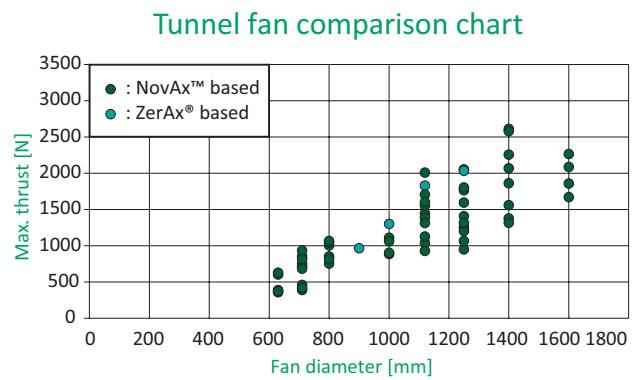
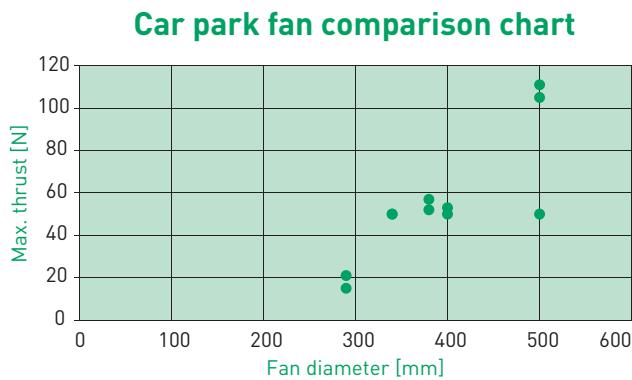
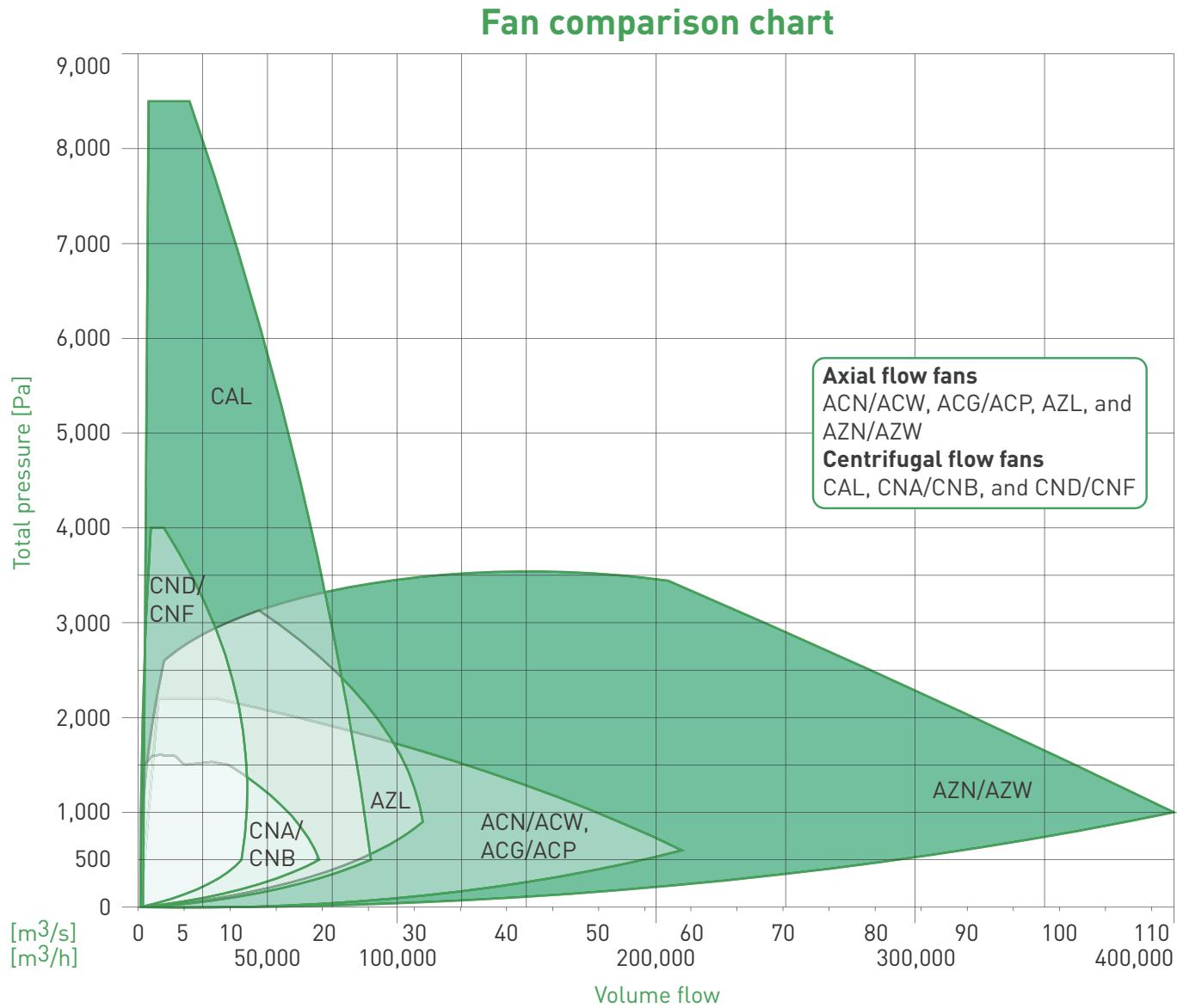
Energy-efficient fans

Selection of fans

Fans are selected based on the requirements for air quantities and total pressure.

Jet fans are selected based on the requirement for thrust.

The below figures compare NOVENCO fans and jet fans.



Axial flow fans

ZerAx® AZN

The NOVENCO® ZerAx® AZN fans cover a wide range of ventilation needs within many kinds of environments. As energy-efficient core units in ventilation systems they facilitate comfortable indoor climates with low noise levels in residential, commercial and industrial environments. As spark-proof marine EX, and as ATEX and hot-smoke approved fan units in hazardous environments they aid in safe and secure ventilation of flammable and explosive gaseous or dust-filled atmospheres.

The design is flexible and configurable for installation in ducts with or without free inlets, for in-AHU mounting or for construction of f.x. fan walls in combination with cooling solutions and more. The fan materials are 98% recyclable. The drives and controls encompass a broad spectrum and combinations of motors and variable-frequency drives (VFD).



Specifications		AZN
Hub sizes [mm]		Ø160 - Ø350 - Ø560
Impeller diameters [mm]	Ø160 hubs: Ø350 hubs: Ø560 hubs:	Ø250 - Ø280 - Ø315 - Ø355 - Ø400 - Ø450 - Ø500 Ø500 - Ø560 - Ø630 - Ø710 - Ø800 - Ø900 - Ø1000 - Ø1120 - Ø1250 Ø1000 - Ø1120 - Ø1250 - Ø1400 - Ø1600 - Ø1800 - Ø2000
Casing thicknesses [mm]		2 or 4
Blade angles		Preset and adjustable
Materials		Impeller blades and guide vanes: Aluminium Casings: Metallic coated steel sheet or hot-dip galvanised steel
Drives	Motors: AC IE1-IE4 or PM/SynRM IE4-IE5 Controls: Direct or frequency converters	
Executions	Standard temperature, ATEX or marine EX, hot-smoke	
Approvals and certifications	AMCA, ATEX, EN 12101-3	
Corrosion categories	C3, C4 or C5	
Flange standard	Eurovent 1/2	
High temperature classes	F200(120), F300(60), Ff300(120) with VFD	

Performance	
Airflow	Unidirectional
Direction of airflow	Impeller → motor
Air quantities [m ³ /s] / [m ³ /h]	0.1 - 110 / 360 - 396000
Max. total pressures [Pa]	3400
Max. fan efficiency [%]	92

Accessories - features	- features	- connection	- external
Acoustic diffusers with or without cores	Measuring pipes	Counter flanges	Dampers
Certificates (works, weight, balancing, test)	Painted impellers for C4/5 environments	Duct spigots	Roof hoods
Frequency converters	Short or long diffusers	Fan casing extensions	
Hub covers	Silencers with or without cores	Flexible connections (PERL / Maritex)	
Inlet cones with wire guards	Space heaters for motors	- mounting	
Kits for lubrication of motors	Thermistors	Anti-vibration mountings	
Low temperature motor options	Wire guards for inlet and outlet	Horizontal mounting feet	
Marine motor classifications		Vertical mounting plates	

Axial flow fans

ZerAx® AZL

The NOVENCO® ZerAx® AZL fans are for ventilation needs within commercial and industrial environments. As energy-efficient core units in ventilation systems they facilitate comfortable indoor climates with low noise levels. As hot-smoke approved fan units in carparks, commercial and industrial buildings, and tunnels they improve safety conditions when fires rage and hot smoke needs to be contained.

The main design characteristic is the integrated free inlet cone which adds to the compact form factor and makes the AZL optimal for in-AHU or wall installations. The fan materials are 98% recyclable. The drives and controls encompass a broad spectrum and combinations of motors and variable-frequency drives (VFD).



Specifications		AZL
Hub sizes [mm]		Ø160 - Ø350
Impeller diameters [mm]	Ø160 hubs: Ø350 hubs:	Ø250 - Ø280 - Ø315 - Ø355 - Ø400 - Ø450 - Ø500 Ø500 - Ø560 - Ø630 - Ø710 - Ø800 - Ø900 - Ø1000
Casing thicknesses [mm]		2 or 3
Blade angles		Preset and adjustable
Materials		Impeller blades and guide vanes: Aluminium Casings: Metallic coated steel sheet, hot-dip or hot-dip galvanised steel
Drives		Motors: AC IE1-IE4 or PM/SynRM IE4-IE5 Controls: Direct or frequency converters
Executions		Standard temperature, hot-smoke
Approvals and certifications		EN 12101-3
Corrosion categories		C3, C4 or C5
Flange standard		Eurovent 1/2
High temperature classes		F200(120), F300(60), Ff300(120) with VFD

Performance	
Airflow	Unidirectional
Direction of airflow	Impeller → motor
Air quantities [m³/s] / [m³/h]	0.1 - 33 / 360 - 119000
Max. total pressures [Pa]	3400
Max. fan efficiency [%]	92

Accessories - features	- features	- connection	- mounting
Acoustic diffusers with or without cores	Measuring pipes	Counter flanges	Support frames
Certificates (works, weight, balancing, test)	Painted impellers for C4/5 environments	Duct spigots	Vertical mounting plates
Frequency converters	Short or long diffusers	Fan casing extensions	- external
Hub covers	Silencers with or without cores	Flexible connections (PERL)	Dampers
Kits for lubrication of motors	Space heaters for motors	Round-to-square transition ducts	
Low temperature motor options	Thermistors		
Marine motor classifications	Wire guards for inlet and outlet		

NOVENCO® ZerAx® fans
combine unmatched 92%
efficiency, over 20 years of
lifespan and 98% recyclability
- the ultimate in performance
and sustainability

Axial flow fans

ZerAx® AZW

The NOVENCO® ZerAx® AZW fans are robust and strong for ventilation needs in harsh marine environments. As energy-efficient core units in ventilation systems they facilitate comfortable indoor climates with low noise levels in both industrial and marine environments. As spark-proof marine EX and as ATEX approved fan units in hazardous environments they aid in safe and secure ventilation of flammable and explosive gaseous or dust-filled atmospheres.

The design is flexible and configurable for installation in ducts with or without free inlets. The fan materials are 98% recyclable. The drives and controls encompass a broad spectrum and combinations of motors and variable-frequency drives (VFD).



Specifications		AZW
Hub sizes [mm]		Ø350 - Ø560
Impeller diameters [mm]	Ø350 hubs: Ø560 hubs:	Ø500 - Ø560 - Ø630 - Ø710 - Ø800 - Ø900 - Ø1000 - Ø1120 - Ø1250 Ø1000 - Ø1120 - Ø1250 - Ø1400 - Ø1600 - Ø1800 - Ø2000
Casing thicknesses [mm]		10
Blade angles		Preset and adjustable
Materials		Impeller blades and guide vanes: Aluminium Casings: Hot-dip galvanised steel
Drives		Motors: AC IE1-IE4 or PM/SynRM IE4-IE5 Controls: Direct or frequency converter
Executions		Standard temperature or marine EX
Approvals and certifications		—
Corrosion categories		C3, C4 or C5
Flange standard		DIN 24154 R4
Performance		
Airflow		Unidirectional
Direction of airflow		Impeller → motor
Air quantities [m³/s] / [m³/h]		0.1 - 110 / 360 - 396000
Max. total pressures [Pa]		3400
Max. fan efficiency [%]		92

Accessories - features	- features	- connection	- external
Certificates (works, weight, balancing, test)	Silencers with or without cores	Counter flanges	Dampers
Frequency converters	Space heaters for motors	Duct spigots	Roof hoods
Inlet cones with wire guards	Thermistors	Fan casing extensions	
Kits for lubrication of motors	Wire guards for inlet and outlet	Flexible connections (PERL / Maritex)	
Low temperature motor options	- mounting		
Marine motor classifications	Anti-vibration mountings		
Painted impellers for C4/5 environments	Vertical mounting plates		

Axial flow fans

NOVAX ACN – ARN

The NOVENCO® NovAx™ ACN-ARN fans cover a wide range of ventilation needs within many kinds of environments. As energy-efficient fan units in ventilation systems they facilitate comfortable indoor climates with low noise levels in residential, commercial and industrial environments. The ACN is furthermore available as spark-proof marine EX, and as ATEX approved fans. Both the ACN-ARN are also hot-smoke approved for safe and secure ventilation of flammable atmospheres.

The designs are flexible and configurable for installation in ducts with or without free inlets, for in-AHU mounting and more. The drives and controls include a wide range and combinations of motors and variable-frequency drives (VFD).



Specifications		ACN	ARN		
Hub sizes [mm]		ø160 - ø230 - ø280 - ø330 - ø380 - ø403 - ø578	ø403 - ø578		
Impeller diameters [mm] ¹	ø160 hubs: ø230 hubs: ø280 and ø330 hubs: ø380 hubs: ø403 hubs: ø578 hubs:	ø250 - ø315 - ø400 - ø500 ø400 - ø500 - ø560 - ø630 - ø710 - ø800 ø500 - ø560 - ø630 - ø710 - ø800 - ø900 ø560 - ø630 - ø710 - ø800 - ø900 - ø1000 ø900 - ø1000 - ø1120 - ø1250 - ø1400 ø900 - ø1000 - ø1120 - ø1250 - ø1400 - ø1600			
Casing thicknesses [mm]		2, 3 or 4	2 or 4		
Blade angles		Preset and adjustable			
Materials	Impeller blades: Aluminium or GRP polyester; Hubs: Aluminium or stainless steel Casings: Hot-dip galvanised steel or stainless steel				
Drives	Motors: AC IE1-IE3 Controls: Direct or frequency converters				
Executions	Standard temperature, ATEX, marine EX, hot-smoke				
Approvals and certifications	ATEX, EN 12101-3				
Corrosion categories	C3, C4 or C5				
Flange standard	Eurovent 1/2				
High temperature classes	F200(120), F300(60), Ff300(120), F400(120)				

1. Refer to the NovAx catalogue for available hub-impeller combinations for hot-smoke fans.

Performance			
Airflow	Unidirectional	Reversible	
Direction of airflow	Impeller → motor		
Air quantities [m ³ /s] / [m ³ /h]	0.1 - 65 / 360 - 234000	1.5 - 50 / 5000 - 180000	
Max. total pressures (standard / smoke) [Pa]	2000 / 1800	1200	
Max. fan efficiency [%]	83	75	

Accessories - features	- features	- mounting	- external
Acoustic diffusers with or without cores	Marine motor classifications	Anti-vibration mountings	Dampers
Certificates (works, weight, balancing, test)	Short or long diffusers for outlet	Horizontal mounting feet	Roof hoods
Frequency converters	Silencers with or without cores	Vertical mounting plates	
Inlet cones with wire guards	Space heaters for motors	- connection	
Inspection hatches (included)	Spark-proof linings	Counter flanges	
Kits for lubrication of motors	Thermistors	Duct spigots	
Low temperature motor options	Wire guards for inlet and outlet	Flexible connections (PERL / Maritex)	

Axial flow fans

NovAx ACW

The NOVENCO® NovAx™ ACW fans are robust and strong for marine ventilation needs in harsh environments. As energy-efficient fan units in ventilation systems they facilitate comfortable indoor climates with low noise levels in industrial and marine environments. As spark-proof marine EX and as ATEX approved fan units in hazardous environments they aid in safe and secure ventilation of flammable and explosive gaseous or dust-filled atmospheres.

The design is flexible and configurable for installation in ducts with or without free inlets. The drives and controls include a wide range and combinations of motors and variable-frequency drives (VFD).



Specifications		ACW		
Hub sizes [mm]		ø160 - ø230 - ø280 - ø330 - ø380 - ø403 - ø578		
Impeller diameters [mm] ¹	ø160 hubs: ø230 hubs: ø280 and ø330 hubs: ø380 hubs: ø403 hubs: ø578 hubs:	ø250 - ø315 - ø400 - ø500 ø400 - ø500 - ø560 - ø630 - ø710 - ø800 ø500 - ø560 - ø630 - ø710 - ø800 - ø900 ø560 - ø630 - ø710 - ø800 - ø900 - ø1000 ø900 - ø1000 - ø1120 - ø1250 - ø1400 ø900 - ø1000 - ø1120 - ø1250 - ø1400 - ø1600		
Casing thicknesses [mm]		6 or 10		
Blade angles		Preset and adjustable		
Materials		Impeller blades: Aluminium or GRP polyester; Hubs: Aluminium or stainless steel Casings: Hot-dip galvanised steel or stainless steel (6 mm)		
Drives	Motors: AC IE1-IE4 Controls: Direct or frequency converters			
Executions	Standard temperature, ATEX or marine EX			
Approvals and certifications	ATEX			
Corrosion categories	C3, C4 or C5			
Flange standard	DIN 24154 R4			
1. Refer to the NovAx catalogue for available hub-impeller combinations.				
Performance				
Airflow	Unidirectional			
Direction of airflow	Impeller → motor			
Air quantities [m ³ /s] / [m ³ /h]	0.1 - 65 / 360 - 234000			
Max. total pressures [Pa]	2000			
Max. fan efficiency [%]	83			

Accessories - features	- features	- connection	- external
Acoustic diffusers with or without cores	Marine motor classifications	Counter flanges	Dampers
Certificates (works, weight, balancing, test)	Silencers with or without cores	Duct spigots	Roof hoods
Frequency converters	Space heaters for motors	Flexible connections (PERL / Maritex)	
Inlet cones with wire guards	Spark-proof linings	- mounting	
Inspection hatches	Thermistors		
Kits for lubrication of motors	Wire guards for inlet and outlet		
Low temperature motor options			

Axial flow fans

NovAx ACG – ACP

The NOVENCO® NovAx™ ACG-ACP fans meet a broad range of ventilation needs across multiple environments. As robust, reliable and compact fan units in ventilation systems for land, marine and offshore they facilitate comfortable ventilation systems for industrial, carpark and tunnel environments. As hot-smoke approved fan units in commercial and industrial buildings, carparks and tunnels they aid in safe and secure ventilation of smoke-filled air.

The design has free inlets and is optimal for installation in ducts and walls. Specific to the ACG is the integrated guide vanes which increase the max. total pressure. The drives and controls include a wide range of motors and variable-frequency drives (VFD) in various combinations.



Specifications	ACG	ACP
Hub sizes [mm]		ø160 - ø230 - ø280 - ø330 - ø380 - ø403 - ø578
Impeller diameters [mm] ¹	ø160 hubs: ø230 hubs: ø280 and ø330 hubs: ø380 hubs: ø403 hubs: ø578 hubs:	ø250 - ø315 - ø400 - ø500 ø400 - ø500 - ø560 - ø630 - ø710 - ø800 ø500 - ø560 - ø630 - ø710 - ø800 - ø900 ø560 - ø630 - ø710 - ø800 - ø900 - ø1000 ø900 - ø1000 - ø1120 - ø1250 - ø1400 ø900 - ø1000 - ø1120 - ø1250 - ø1400 - ø1600
Casing thicknesses [mm]		2.5, 3 or 4
Blade angles		Preset and adjustable
Materials	Impeller blades: Aluminium or GRP polyester; Hubs: Aluminium or stainless steel Casings: Hot-dip galvanised steel or stainless steel	
Drives	Motors: AC IE1-IE4 Controls: Direct or frequency converters	
Executions	Standard temperature or hot-smoke	
Approvals and certifications	EN 12101-3	
Corrosion categories	C3, C4 or C5	
Flange standard	Eurovent 1/2	
High temperature classes	F200(120), F300(60), F400(120)	
1. Refer to the NovAx catalogue for available hub-impeller combinations.		
Performance		
Airflow	Unidirectional	
Direction of airflow	Motor → impeller	
Air quantities [m ³ /s] / [m ³ /h]	0.1 - 65 / 360 - 234000	
Max. total pressures [Pa]	2000	
Max. fan efficiency [%]	83	

Accessories - features	- features	- mounting	- connection
Acoustic diffusers with cores	Measuring pipes	Anti-vibration mountings	Counter flanges
Air quantity meters	Short or long diffusers	Horizontal mounting feet	Duct spigots
Certificates (works, weight, balancing, test)	Silencers with or without cores	Vertical mounting plates	Flexible connections (PERL / Maritex)
Frequency converters	Space heaters for motors		- external
Low temperature motor options	Thermistors		Dampers
Marine motor classifications	Wire guards for outlet		

Jet fans

ARP – AUZ – AUO – ARO

The NOVENCO® ARP-AUZ-AUO-ARO car park jet fans meet needs for standard and emergency-smoke ventilation. The hot-smoke approved fans are designed with optimal efficiency, low noise and minimal space requirements in mind. As such, they are the perfect aid in safe, secure and silent ventilation of gaseous and smoke-filled car park facilities.

The design is compact to provide a high degree of constructional layout freedom and to reduce the need for ducts.



Specifications	ARP	AUZ	AUO	ARO		
Impeller diameters [mm]	ø340		ø290 - ø380 - ø500			
Lengths [mm] ¹	2297	2070	2570 – 2672 – 2606	2823 – 2918 – 2854		
Heights [mm] ¹	422		320 – 420 – 540			
Casing thicknesses [mm]	Fan casings: 3; Outer casings: 0.75					
Blade angles	Preset					
Weights [kg] ¹	100	86	80 – 110 – 160			
Materials	Fan casings: Rolled steel tube; Outer casings: AluZink Impeller blades: Aluminium alloy; Hubs: Galv. steel (ARP-AUO-ARO) or aluminium (AUZ)					
Drives	Motors: Two-speed Controls: Direct-coupled					
Rated power [kW] ¹	0.3 / 1.3	0.3 / 1.3	0.1 / 0.5 – 0.3 / 1.1 – 0.5 / 2.2			
Operating temperatures [°C]	Standard: -20 to +40; Max.: +40 to +120					
Executions	Hot-smoke					
Silencing technology	Silencers on either side of fan unit					
Approvals and certifications	EN 12101-3					
Corrosion categories	C3					
High temperature classes	F200(120), F300(60), Ff300(120), F400(120)					
Performance						
Airflow	Reversible	Unidirectional		Reversible		
Thrust [N] ¹	15 / 50	15 / 50	5 / 21 – 15 / 57 – 27 / 105	4 / 15 – 15 / 52 – 28 / 111		
Sound [dB(A)] ³	50 / 64	42 / 59	38 / 49 – 42 / 55 – 48 / 62	38 / 50 – 45 / 59 – 52 / 67		
<ol style="list-style-type: none"> 1. Values for AUO and ARO are for each of the impeller diameters. 2. Thrusts are for operation at low / high speeds, respectively. 3. Levels are for sound pressure at 3 m from jet fans, free-field conditions at an angle of 45° and for operation at low / high speeds, respectively. 						

Accessories - features	- mounting
Powder-coated casings	Vibration dampers

Jet fans

AUT – ART – AZT / CGF

The NOVENCO® AUT-ART-AZT/CGF car park jet fans meet needs for standard and emergency-smoke ventilation. The hot-smoke approved fans are designed with optimal efficiency, low noise and minimal space requirements in mind. As such, they are the perfect aid in safe, secure and silent ventilation of gaseous and smoke-filled car park facilities.

The design is compact to provide a high degree of constructional layout freedom and to reduce the need for ducts.



Specifications	AUT	ART	AZT	CGF		
Impeller diameters [mm]	ø400		ø450	ø500		
Lengths [mm]	854		1133	1297		
Heights [mm]	423		530	262		
Casing thicknesses [mm]	Fan casings: 3 (AUT-ART), 2 mm (AZT / CGF)					
Blade angles	Preset					
Weights [kg]	63	70	75			
Materials	Fan casings: Rolled steel tube (AUT-ART), AluZink (AZT / CGF) Impeller blades: Aluminium alloy; Hubs: Galv. steel (AUT-ART), Alluminium (AZT), no hub (CGF)					
Drives	Motors: Two-speed Controls: Direct-coupled					
Rated power [kW]	0.3 / 1.1	0.3 / 1.3	0.5 / 2.2	0.3 / 1.2		
Operating temperatures [°C]	Standard: -20 to +40 Max.: +40 to +120		Standard: -20 to +55 Max.: +40 to +120			
Executions	Hot-smoke					
Silencing technology	Integrated in fan unit design					
Approvals and certifications	EN 12101-3					
Corrosion categories	C3					
High temperature classes	F200(120), F300(60), Ff300(120), F400(120)		F200(120), F300(60), Ff300(120)			
Performance						
Airflow	Unidirectional	Reversible	Unidirectional			
Thrust [N] ¹	14 / 53	13 / 50	26 / 100	12 / 50		
Sound [dB(A)] ²	54 / 72	56 / 75	55 / 74	61 / 75		
¹ . Thrusts are for operation at low / high speeds, respectively. ² . Levels are for sound pressure at 3 m from jet fans, free-field conditions at an angle of 45° and for operation at low / high speeds, respectively.						
Accessories - features	- mounting					
Powder-coated casings	Vibration dampers					



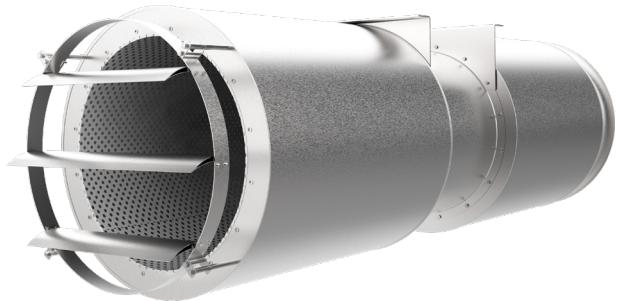
More than 50 years
of thrust and reliability
- NOVENCO tunnel fans lead
the way in ventilation and
smoke control worldwide

Tunnel jet fans

AUZ – AUC – ARC – AUR – ARR

The NOVENCO® AUZ-AUC-ARC-AUR-ARR tunnel jet fans meet needs for standard and emergency-smoke ventilation. The hot-smoke approved fans are designed with optimal efficiency, low noise and minimal space requirements in mind. As such, they are the perfect aid in safe, secure and silent ventilation of gaseous and smoke-filled tunnels.

The designs are compact with high ratios of performance-to-size efficiency to provide high degrees of constructional layout freedom.



Specifications	AUZ	AUC	ARC	AUR	ARR			
Impeller diameters [mm]	ø900 - ø1000 - ø1120 - ø1250	ø630 - ø710 - ø800		ø630 - ø710 - ø800 - ø900 - ø1000 - ø1120 - ø1250 - ø1400 - ø1600				
Lengths [mm] ¹	3750	3312 - 3312 - 3220		AUR: 3590 - 3590 - 3590 - 3790 - 3790 - 3790 - 4060 - 4060 ARR: 3690 - 3690 - 3690 - 3890 - 3890 - 3890 - 4160 - 4160				
Heights [mm] ¹	1120 - 1220 - 1340 - 1470	670 - 750 - 840		850 - 930 - 1020 - 1220 - 1340 - 1470 - 1620 - 1820				
Blade angles	Preset							
Weights [kg] ¹	761 - 809 - 995 - 1250	350 - 430 - 480		220 - 280 - 360 - 460 - 510 - 560 - 630 - 780 - 840				
Materials	Fan casings: Welded hot-dip galv. or stainless steel; Impeller blades: Aluminium; Hubs: Metallic-coated steel w/ optional epoxy coating (AUC-ARC-AUR-ARR); Aluminium (AUZ)							
Drives	Motors: Single-speed Controls: Direct-on-line (DOL)							
Rated power [kW] ²	13 / 50	13 / 40		13 / 108				
Operating temperatures [°C]	Standard: -20 to +40 °C		Standard: -20 to +40; Max.: +40 to +120					
Executions	Hot-smoke							
Silencing technology	Silencers on either side of fan unit							
Approvals and certifications	EN 12101-3							
Corrosion categories	C3 (Galvanised), C5-I (Stainless steel)							
High temperature classes	F200, F300		F200(120), F300(60), Ff300(120), F400(120)					

Performance					
Airflow	Unidirectional	Unidirectional	Reversible	Unidirectional	Reversible
Thrust [N] ³		109 / 850	105 / 742	290 / 3002	272 / <2870
Sound [dB(A)] ⁴		80 / 102		87 / 106	

1. Values are according to impeller diameters. Weights are without motors.

2. Rated power values are min. / max. across impeller diameters.

3. Thrusts are for operation at low / high speeds, respectively.

4. Levels are for sound pressure at 3 m from jet fans, free-field conditions at an angle of 45° and for operation at low / high speeds, respectively.

Accessories - features	- features	- features	- mounting
Adjustable deflectors on outlets	Temperature sensors on bearings	Wire guards on inlets	Vibration dampers
Powder-coated casings	Temperature sensors on motor windings		Safety chains
Space heaters for motors	Vibration sensors		

Centrifugal fans

CNA – CNB

The NOVENCO® CNA-CNB centrifugal fans cover a wide range of ventilation needs within light-industrial and marine environments. As low-energy fan units they facilitate comfortable climates with low sound emissions. As spark-proof marine EX units in hazardous environments they aid in safe and secure ventilation of flammable gases.

The design is flexible and for universal installation in many kinds of systems. The drives and controls include single- and two-speed asynchronous motors with optional variable-frequency drives (VFD).



Specifications	CNA	CNB
Impeller diameters [mm]	ø250 - ø315 - ø400 - ø500 - ø630 - ø710 - ø800 - ø900 - ø1000	ø400 - ø500 - ø630 - ø710 - ø800 - ø900 - ø1000
Casing thicknesses [mm]	1.5, 2, 2.5 or 3	
Impellers	Welded and with backward-curved blades	
Materials	Impeller wheels: Galvanised sheet steel (CNA-CNB), hot-dip galvanised sheet steel (CNB) Housings: Galvanised sheet steel, epoxy coating (optional)	
Power transmission ¹	Direct-coupled or belt-driven	
Drives	Motors: Single- or two-speed AC IE1-IE4 Controls: Direct or frequency converters	
Executions	Standard temperature or marine EX	
Approvals and certifications	—	
Corrosion categories	C2	

Performance			
Airflow	Unidirectional		
Air quantities [m ³ /s] / [m ³ /h]	0.2 - 14 / 720 - 50400	0.8 - 18 / 2880 - 64800	
Max. total pressures [Pa]	1000	1500	
Max. fan total efficiency [%]	72		

1. Belt-driven units are non-standard and available on request only.

Accessories - installation	- regulation	- protection	- service
Anti-vibration mountings	Two-speed motors	Guard nets for inlet and outlet	Drain plugs
Counter flanges	Frequency converters	Inlet cones	Inspection hatches
Flexible connections			
Suction boxes			

Centrifugal fans

CND – CNF

The NOVENCO® CND-CNF centrifugal fans cover a wide range of ventilation needs within light-industrial and marine environments. As low energy fan units they facilitate comfortable climates with low sound emissions. As spark-proof marine EX and as ATEX-approved fan units in hazardous environments they aid in safe and secure ventilation of flammable and explosive gaseous or dust-filled atmospheres.

The design is flexible and for universal installation in many kinds of systems. The drives and controls include single- or two-speed asynchronous motors with optional variable-frequency drives (VFD).



Specifications	CND	CNF
Impeller diameters [mm]	ø315 - ø400 - ø450 - ø500 - ø560 - ø630 - ø710	
Casing thicknesses [mm]		2 or 3
Impellers		Welded and with backward-curved blades
Materials	Impeller wheels: Hot-dip galvanised steel (CND), hot-dip galvanised steel or stainless steel (CNF) Housings: Hot-dip galvanised steel or stainless steel (CNF)	
Power transmission		Direct-coupled or belt-driven
Drives	Motors: Single- or two-speed, AC IE1-IE4 Controls: Direct or frequency converters	
Executions		Standard temperature, ATEX (CNF) or marine EX
Approvals and certifications		ATEX
Corrosion categories		C5-I

Performance			
Airflow	Unidirectional		
Air quantities [m ³ /s] / [m ³ /h]	0.2 - 10 / 720 - 36000	0.2 - 11 / 720 - 39600	
Max. total pressures [Pa]	2000	4000	
Max. fan total efficiency [%]	84		

1. Belt-driven units are non-standard and available on request only.

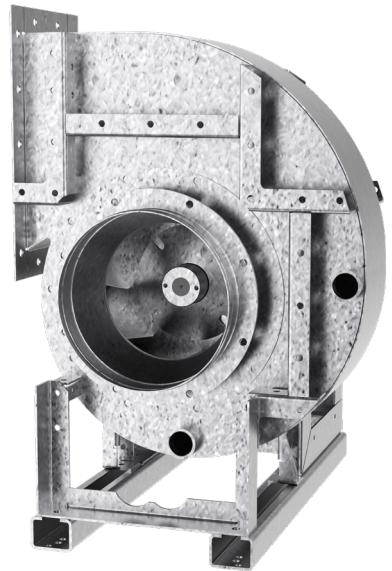
Accessories - installation	- regulation	- protection	- service
Anti-vibration mountings	Two-speed motors	Guard nets for inlet and outlet	Drain plugs
Common base frame for fan and motor	Frequency converters	Inlet cones	Inspection hatches
Flexible connections			
Counter flanges			

Centrifugal fans

CAL

The NOVENCO® CAL centrifugal fans meet needs for high-pressure type ventilation of process air in aggressive environments for industries and marine. As low-energy fan units they facilitate comfortable climates with low sound emissions. As spark-proof marine EX and as ATEX-approved fan units in hazardous environments they aid in safe and secure ventilation of flammable and explosive gaseous or dust-filled atmospheres.

The design is flexible and for universal installation in many kinds of systems. The drives and controls include single- and two-speed asynchronous motors with optional variable-frequency drives (VFD).



Specifications		CAL
Impeller diameters [mm]		ø400 - ø500 - ø630 - ø710 - ø800 - ø900 - ø1000 - ø1120 - ø1250
Casing thicknesses [mm]	ø400 - ø500 impellers: ø630 - ø710 impellers: ø800 - 1000 impellers: ø1120 - ø1250 impellers:	3 4 5 6
Impellers	Welded and with backward-curved blades	
Materials	Impeller wheels: Hot-dip galvanised steel or stainless steel Housings: Hot-dip galvanised steel or stainless steel	
Power transmission	Direct-coupled	
Drives	Motors: Single- or two-speed, AC IE1-IE4 Controls: Direct or frequency converters	
Executions	Standard temperature, ATEX or marine EX	
Approvals and certifications	ATEX	
Corrosion categories	C3 (Galvanised), C5-I (Stainless steel)	

Performance	
Airflow	Unidirectional
Air quantities [m ³ /s] / [m ³ /h]	0.3 - 21 / 1080 - 75600
Max. total pressures [Pa]	8500
Max. fan total efficiency [%]	82

Accessories - installation	- regulation	- protection	- service
Anti-vibration mountings	Two-speed motors	Inlet cones of copper	Drain plugs
Counter flanges	Frequency converters	Thermistors	Inspection hatches
Flexible connections for inlet and outlet		Wire guards	

Air heaters

VMA – VMB

The NOVENCO® NoVa™ VMA-VMB air heaters provide effective and flexible heating for large rooms, warehouses, high-ceiling facilities, and ships. Space requirements are small, and the design allows for heating system layouts without ductwork.



Specifications	4-	5-	6-	7-	8-
Dimensions - square with side lengths [mm]	460	560	660	760	860
Dimensions - depths [mm]	546	571	596	621	646
Blade angles	Preset				
Pipe connections	G1 1/4"				
Max. weights of base units [kg]	20	30	40	50	67
Materials	Cabinets: Galvanised and powder-coated sheet steel Heating coils: Copper pipes with aluminium fins ; Fan blades: Aluminium, steel or plastic				
Drives	Motors: Direct-coupled Controls: Thermostat or speed regulation				
Heat media	Water				
Heat sources	Boilers, heat pumps, or district heating				
Approvals and certifications	—				
Corrosion categories	C3				
Performance					
Airflow	Unidirectional				
Direction of airflow	Motor → impeller				
Air quantities [m ³ /s] / [m ³ /h]	0.42-0.47 / 1500-1700	0.71-0.81 / 2550-2900	1.14-1.19 / 4100-4300	1.5-1.67 / 5400-6000	1.67-2.17 / 6000-7800
Heat outputs [kW]	21.9	35.8	56.9	74.2	103.7

Accessories - installation	- regulation	- regulation
Air distributors	Dynamic flow valves (water)	Temperature regulators
Injection nozzles	Multi-stage switches	Thermo actuators for valves
Front louvres	Stepless regulators	Thermostats

Accessories



Acoustic diffusers



Diffusers



Inlet cones



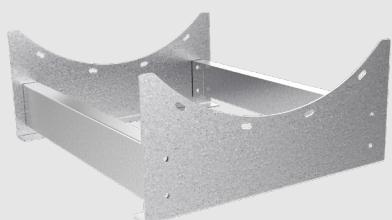
Flexible connections



Counter flanges



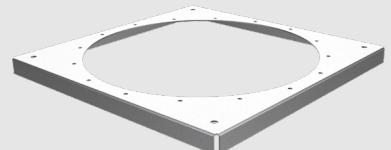
Spark proof lining



Support frames



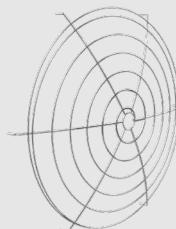
Duct spigots



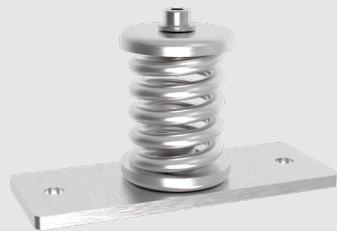
Mounting plates



Silencers



Wire guards



Anti-vibration mountings

Quality and service



Rest assured

At NOVENCO we make sure our products meet our high standards for quality, inspection and test of all units.

Additionally, we offer technical guidance on installation, test of function and training.

Important

This document is provided 'as is'. NOVENCO Building & Industry A/S reserves the right to changes without further notice due to continuous product development.

Pictures in the catalogue may show products with accessories fitted.

The fans are designed for continuous operation. The following kinds of operation may cause fatigue break in the impellers and endanger people.

- Operation in stall area, i.e. with counter pressure that pulsates – called pump mode
- Operation with exceedingly starts and stops
- Uneven flow velocity through fan

If in doubt, NOVENCO should be contacted to assess the suitability of the fans.

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Warranty

The 12-month statutory warranty period applies from when the product leaves the factory unless otherwise agreed. In addition, NOVENCO Building & Industry A/S offers a supplementary warranty as described in the terms and conditions of sale

and delivery found on our website. Wear parts are not covered by the warranty. Special warranty provisions may be agreed upon.

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Quality and environment

NOVENCO Building & Industry A/S is certified in accordance with ISO 9001 and 14001.

Products from NOVENCO Building & Industry A/S are designed, developed and manufactured in Denmark.





info@novenco-building.com

+45 70 77 88 99

novenco-building.com