

**SWISS
ROTORS**

Heat Recovery
and Air Movement

HVAC Components

SWISS ROTORS

The Company

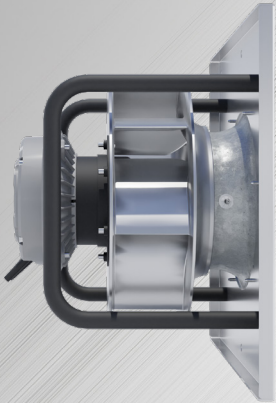
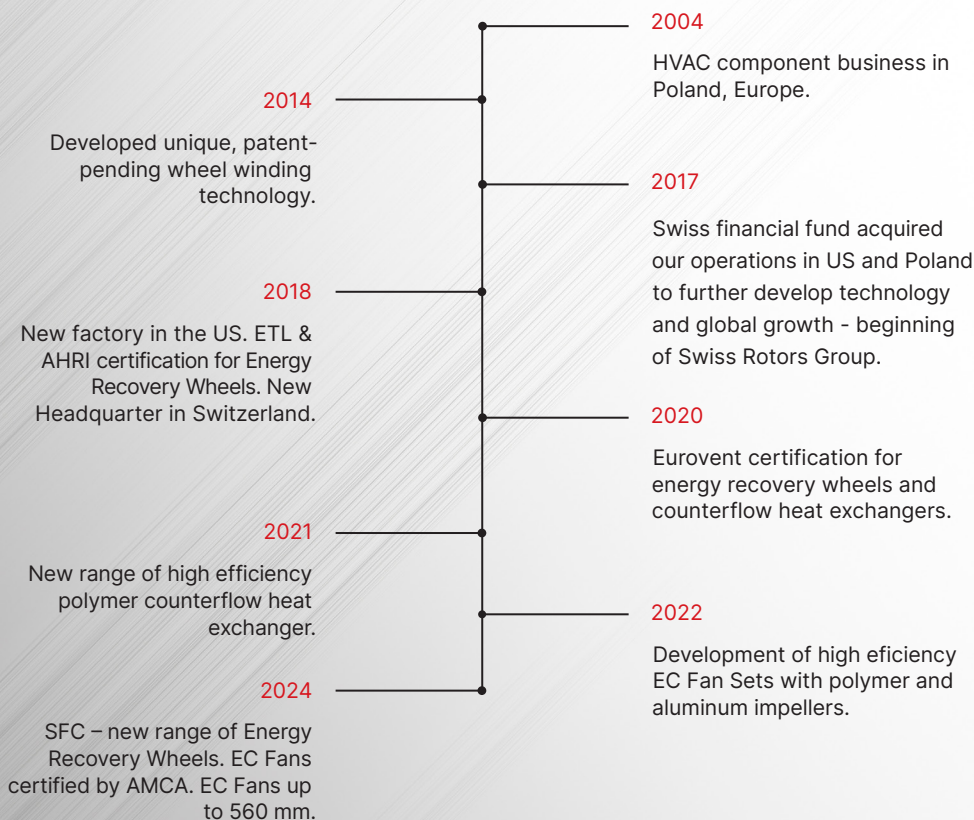
Who we are?

We are a **Swiss** company specializing in the design and production of key components for air conditioning units.

All our products fully correspond to the dimensions of components commonly used on the market and are 100% equivalent in terms of efficiency and performance.

The components we design and produce are subject to continuous improvement. Their technical parameters are guaranteed by independent certification bodies.

How did we become a **reliable partner**?



Where are we **located**?

As close as possible...

Where the market dictates the highest requirements for product quality, performance, efficiency and compliance with directives and standards.

Where respect to Energy is a key aspect of every designed, built and operated ventilation system.

Where the requirements for equipment in terms of service life and reliability are the highest.

We **design and manufacture locally**...

... to be as close as possible to our customers and the markets that they operate. So as to fully understand their requirements and follow changes in regulations.

BUFORD, GA, USA



DĘBOGÓRZE, POLAND





How do we **operate?**

Lean Management

It is a system that interconnects all processes taking place in our company. It is a tool that allows for quick exchange of information within our organization, and thus for permanent, quick implementation of new solutions as well as improvement of those already implemented.

Sustainability

When designing new products, improving existing ones and implementing new processes in our company, we pay great attention to how they will affect our environment.

That is why we choose solutions that will allow us to achieve our business goals while maintaining our social responsibility to the communities that we serve.

Automated & Robotized Production

To ensure full repeatability of the components we produce, we have implemented highly automated production lines with cutting-edge automation solutions..

All this to eliminate the human factor from these production activities, where the key issue is the precision of execution and validation of the correctness of assembly activities.

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Accredited **AMCA** station

Fan Performance Reliability

Fans are undoubtedly the main energy-consuming component of ventilation systems. Unlike energy recovery systems, the fan is used regardless of the season - practically all the time when the air handling unit or rooftop is running.

Proper and accurate assessment of the performance parameters of the fans we produce is the key to building long-term business relationships with our clients.

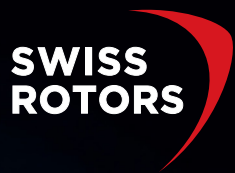
Swiss Rotors Lab

We have installed a certified AMCA test station, where we test the performance and of our fans based on the guidelines of AMCA 210 - the default standard for the most recognized fan certification in the world.

The laboratory of Swiss Rotors Sp. z o.o is accredited with AMCA International as being qualified to conduct tests in accordance with **AMCA 210 Fig. 12, Fig. 15.**

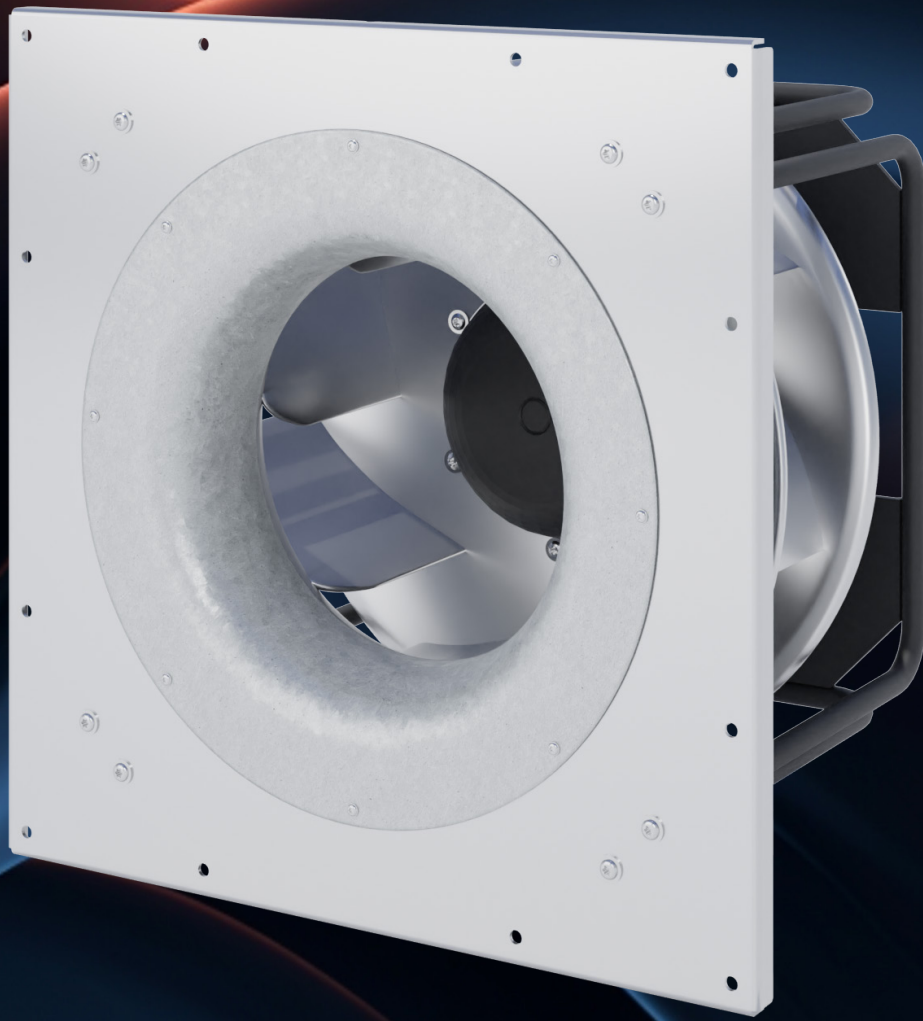
A large, red industrial machine, likely a rotor, is shown in a factory setting. The machine has a prominent circular mesh door on the front, secured with a silver metal frame and bolts. To the right, there is a control panel with a yellow warning label. The machine is mounted on a red frame with a single wheel visible at the bottom left. The background shows a typical industrial environment with various equipment and structures.

**SWISS
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AR-FS-A

EC Fan Sets



**SWISS
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AR-FS-A

EC Fan Sets

Application

Various mechanical ventilation systems, air handling units, rooftop units, and others

Ventilation systems requiring low Specific Fan Power (SFP) together with smooth and precise airflow adjustment

Perfect solution to be combined into Fan-Array systems

Fitted for vertical and horizontal arrangement

General Specification

Fully assembled EC Fan Set

Support to **CAV/VAV** systems (factory mounted static pressure probes on fan inlet vane + precisely determined K-factor)

Air performance according to ISO 5801, Installation Category: A, LwA according to ISO 13347.

Compliance with standards

ISO 5801:2017 – „Fans – Performance testing using standardized airways“

Commission Regulation(EU) 327/2011 – Requirements for fans driven by motors with an electric input power between 125 W and 500 kW

AMCA 210 – certification in progress. Estimated readiness – Jan/Feb 2024.

Motor

Type: Electronically Commutated, Brushless DC Motor

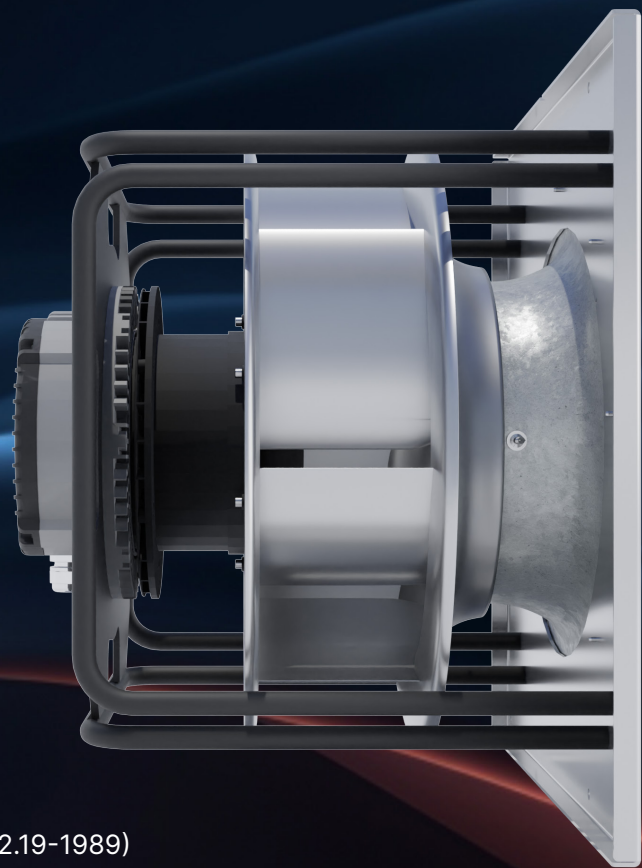
Housing: Die-cast aluminum

Protection Degree: IP54

Overload Protection: Inbuilt thermal limit

Speed Control: 0~10VDC / Modbus RTU

Bearing: Ball Type



Impellers

Type: Radial, Backward-curved, Single Inlet

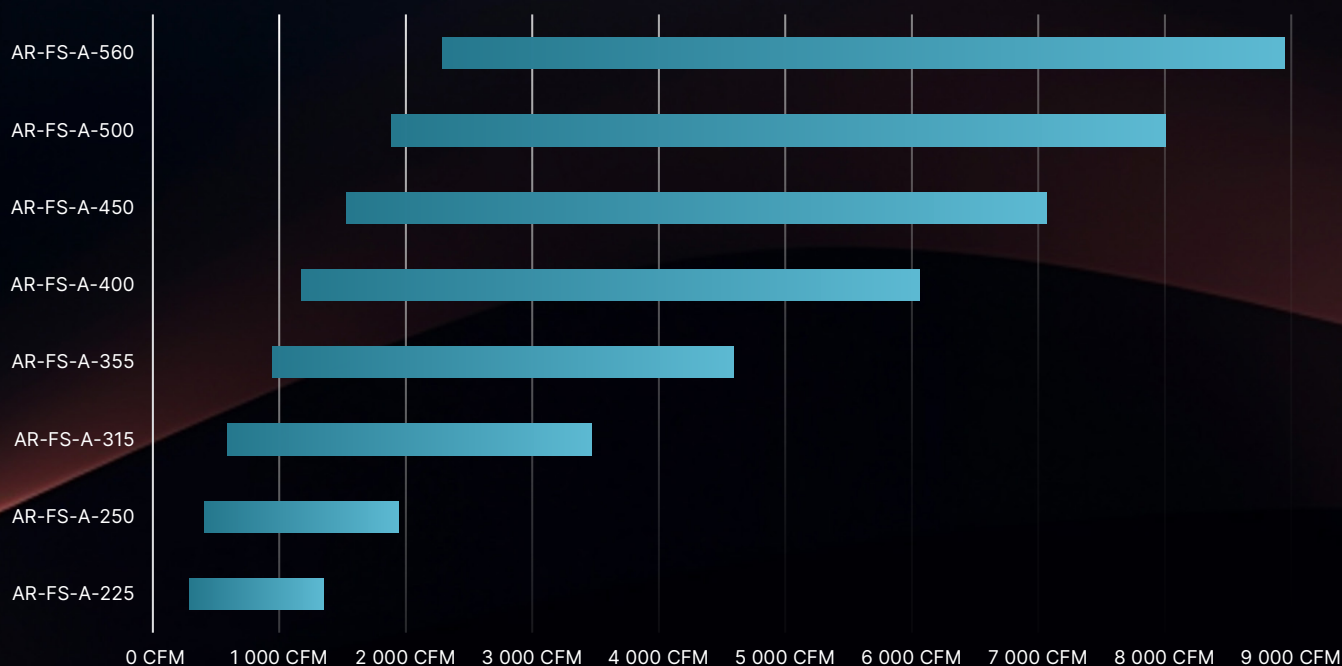
Static efficiency: up to **73%**

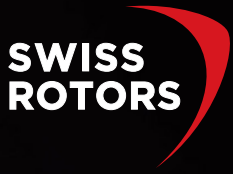
Material:

High Performance Polymer (P)

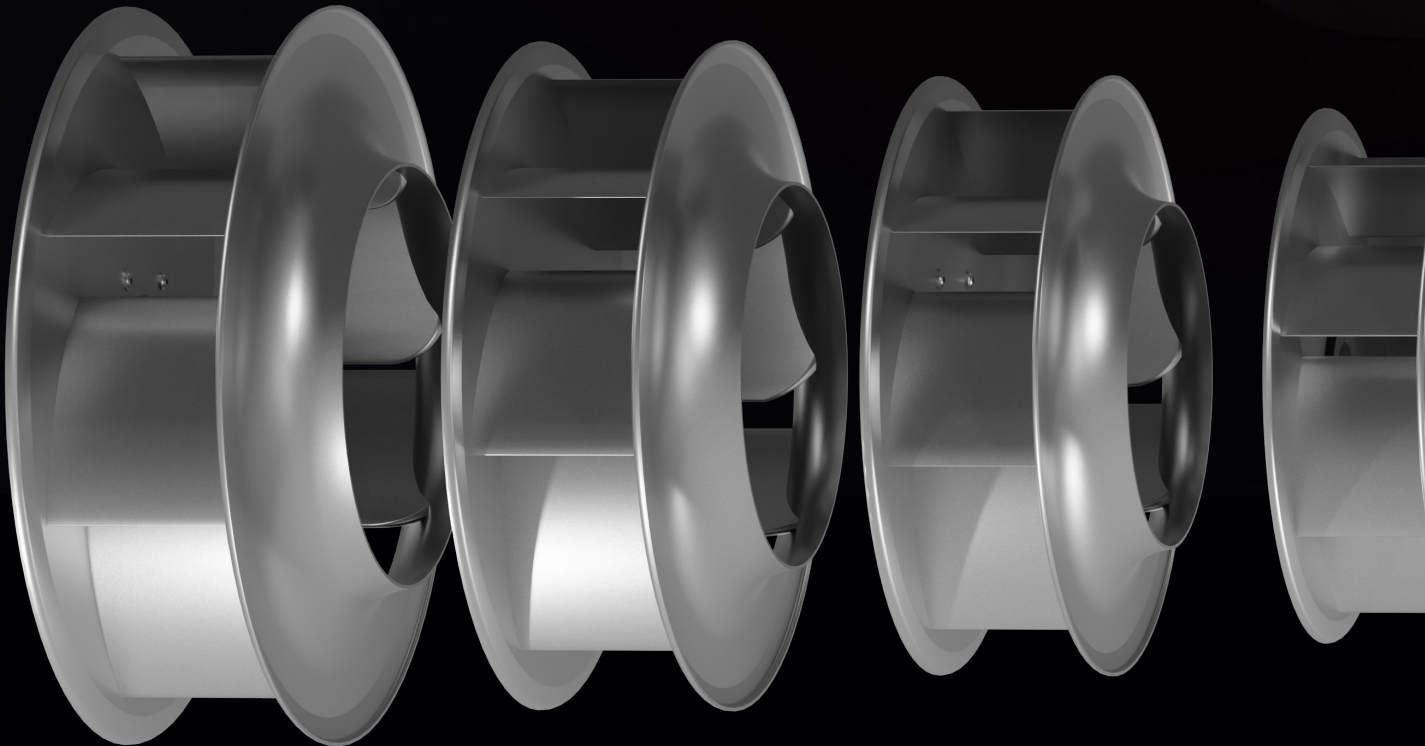
High Performance Aluminum (A)

Balance quality grade: G 6,3 (ISO 1940-1) and BV-3 (ANSI S2.19-1989)



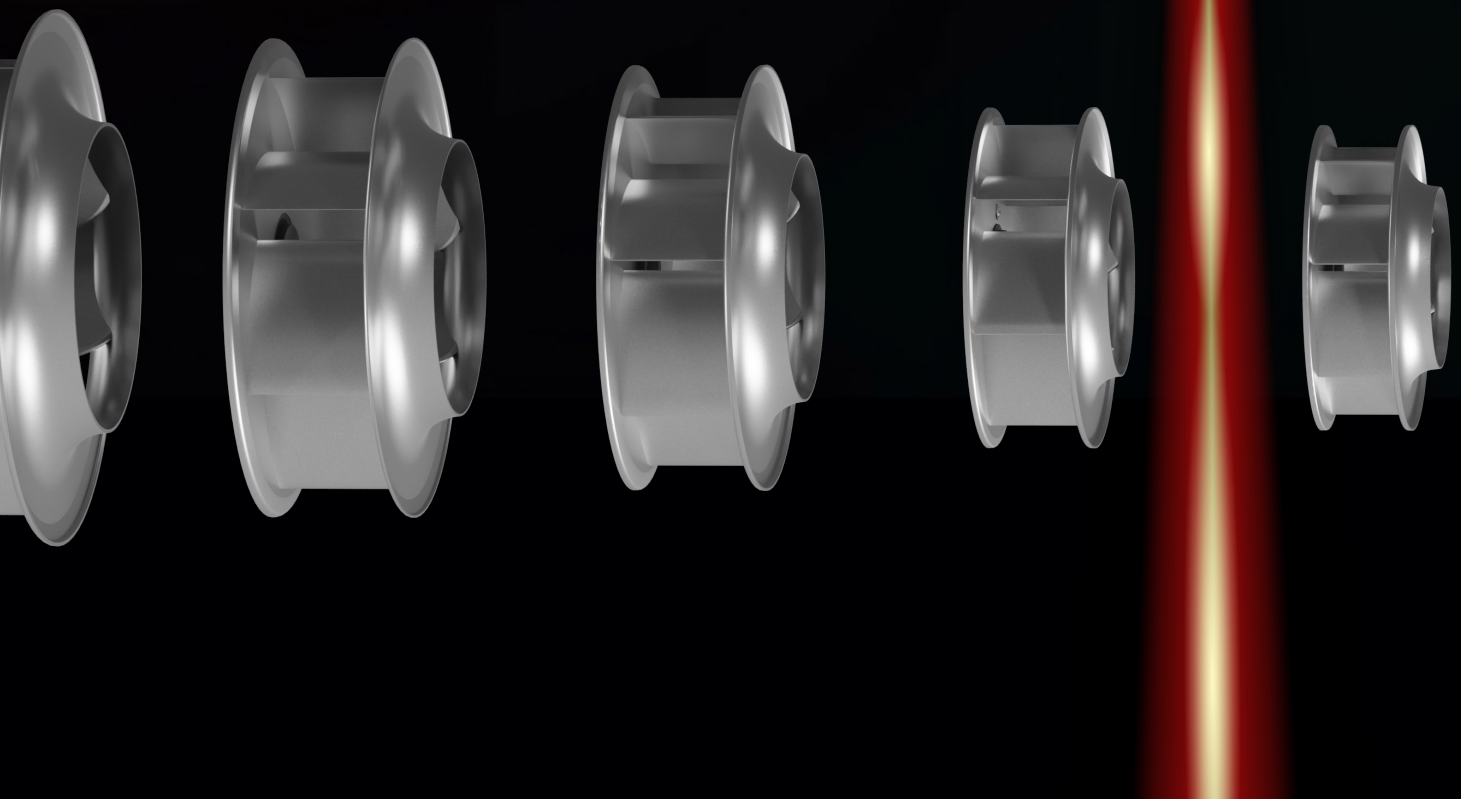


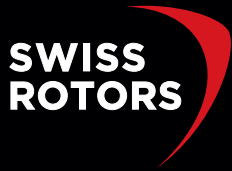
SR-FI-A



Laser Welded

Aluminum Fan Impellers





SR-FI-A

Aluminum Fan Impellers

Specification

Type: Radial, Backward-curved, Single Inlet

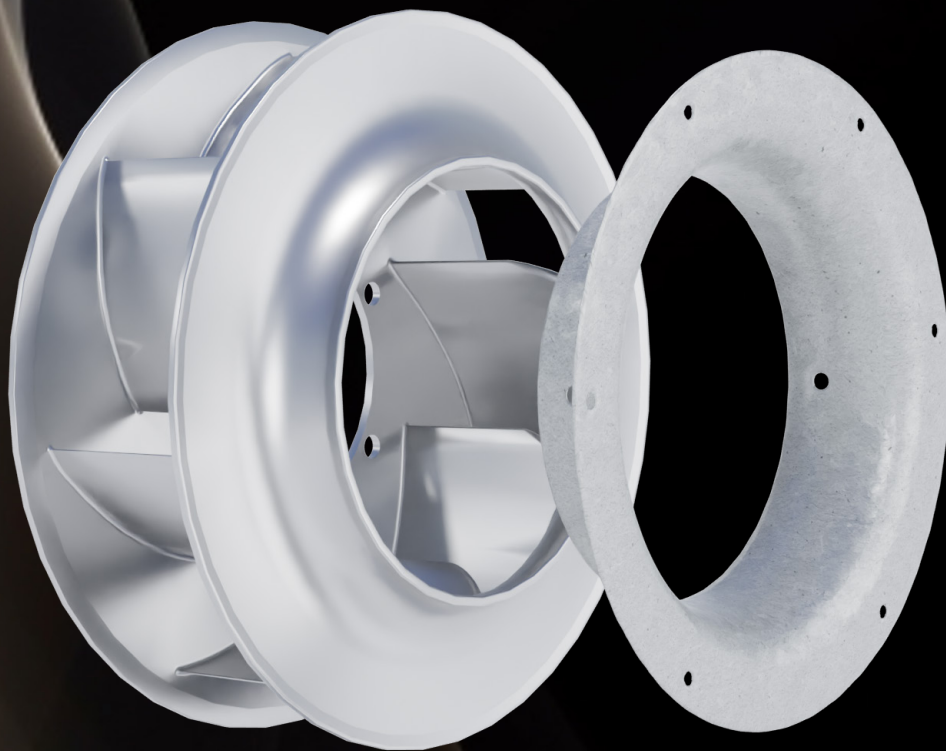
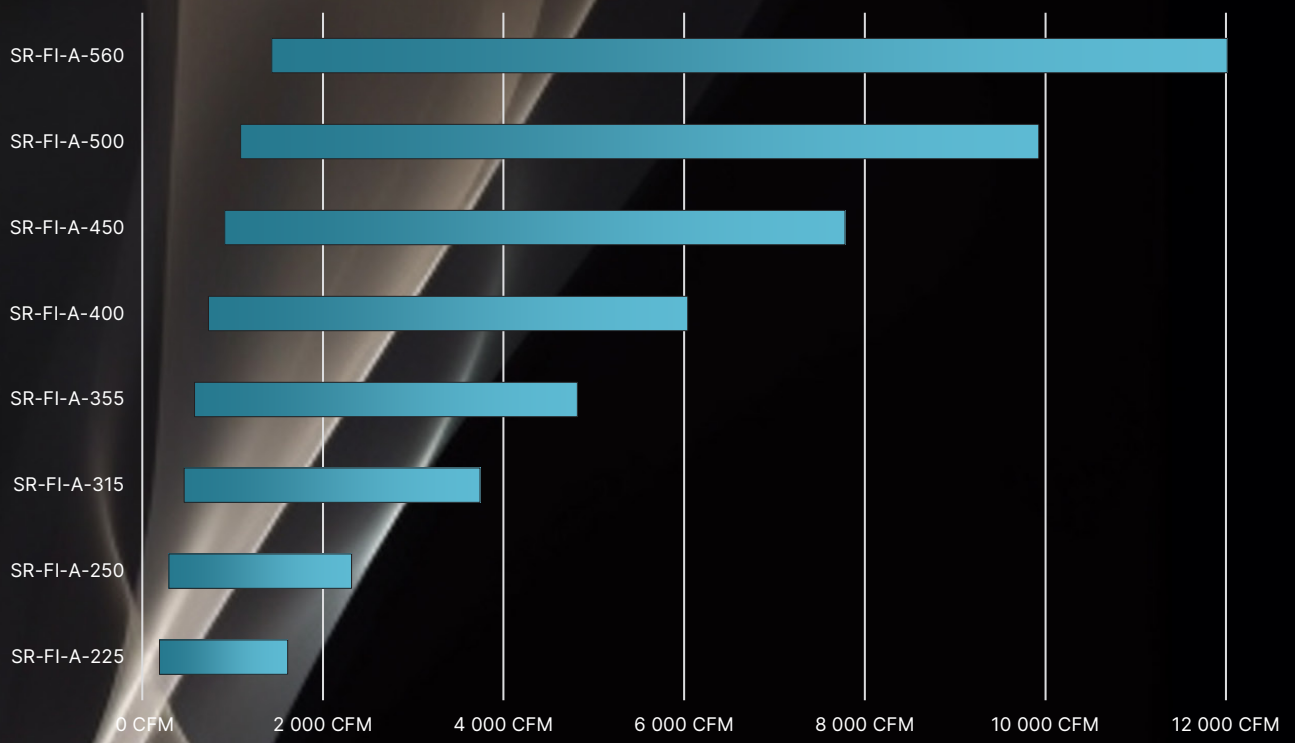
Static efficiency: up to **73%**

Material: High Performance Aluminum (A)

Balance quality grade: G 6,3 (ISO 1940-1) and BV-3 (ANSI S2.19-1989)

Mounting

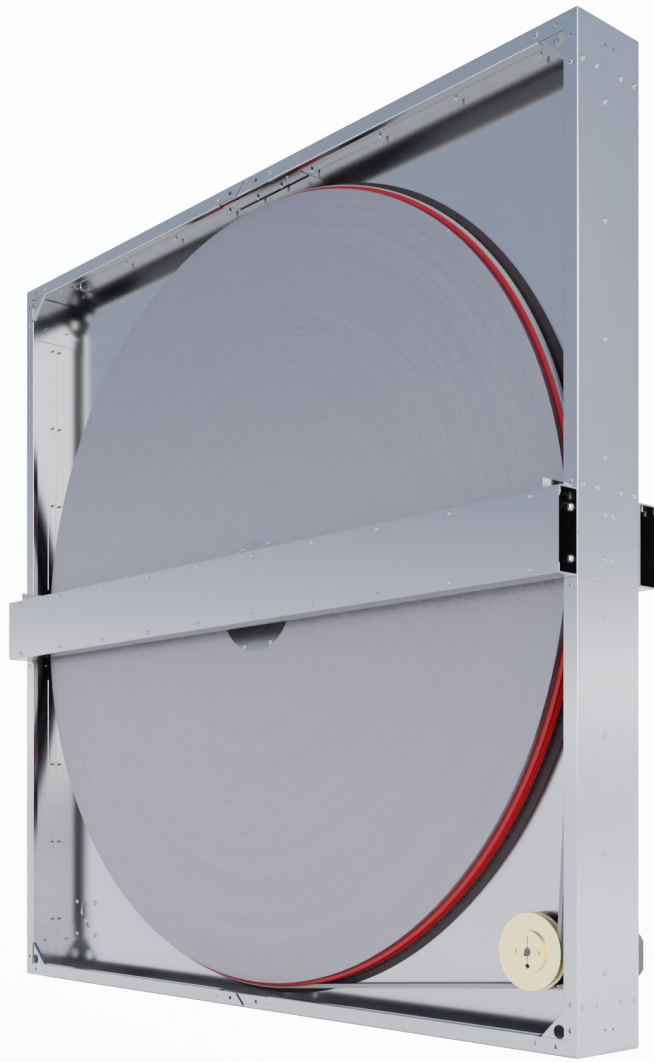
Fan Impeller size	Taperlock ID			
	BF-1610-0625	BF-1610-0875	SM-1610-1125	SM-2012-1375
	Shaft diameter			
	0.625 in	0.875 in	1.125 in	1.375 in
SR-FI-A-225	X	X		
SR-FI-A-250		X		
SR-FI-A-315		X	X	
SR-FI-A-355		X	X	
SR-FI-A-400		X	X	
SR-FI-A-450			X	X
SR-FI-A-500			X	X
SR-FI-A-560			X	X



SFC

4" Energy Recovery Wheel

where **perfect match** is a priority

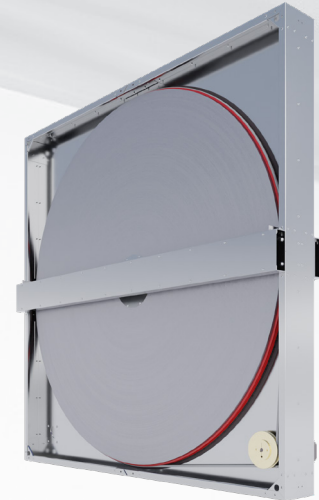


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SFC

4" Energy Recovery Wheel



Model	Wheel Diameter	Dimensions (WxHxD) [in]	Minimum Airflow	Maximum Airflow
SFC-25	25 in	29 × 29 × 4.4 in	280 CFM	1 400 CFM
SFC-30	30 in	34 × 34 × 4.4 in	400 CFM	2 000 CFM
SFC-36	36 in	39 × 39 × 4.4 in	600 CFM	3 000 CFM
SFC-41	41 in	44 × 44 × 4.4 in	780 CFM	3 900 CFM
SFC-46	46 in	50 × 50 × 4.4	1 000 CFM	5 000 CFM
SFC-52	52 in	56 × 56 × 4.4	1 280 CFM	6 400 CFM
SFC-58	58 in	62 × 62 × 4.4	1 600 CFM	8 000 CFM
SFC-64	64 in	68 × 68 × 6.1	1 920 CFM	9 600 CFM
SFC-68	68 in	72 × 72 × 7.1	2 180 CFM	10 900 CFM
SFC-74	74 in	78 × 78 × 7.1	2 580 CFM	12 900 CFM
SFC-81	81 in	85 × 85 × 7.1	3 100 CFM	15 500 CFM

Design & Performance

A range of dimensions that is **equivalent** to most energy recovery wheels available on the market

Monolithic construction of the heat accumulation structure based on a patented foil forming technology that interlocks subsequent foil layers

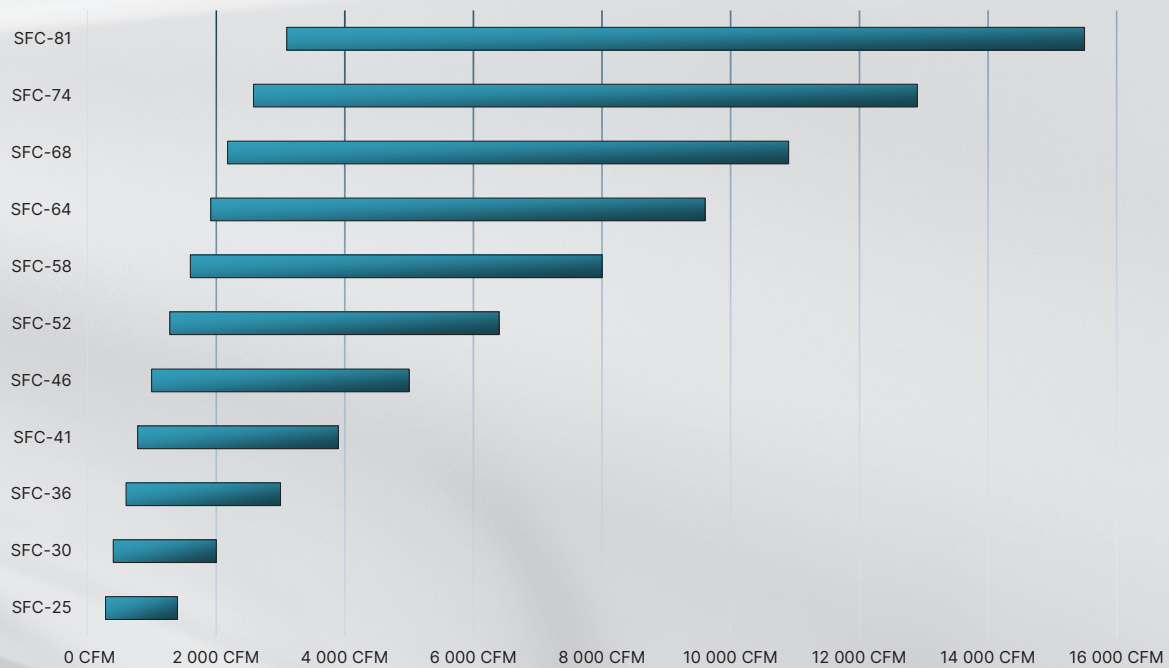
Single diaphragm casing design:

- Facilitates transport and installation of the wheel

- Easy and quick adaptation of the design and drive position to real installation conditions

Sensible / Latent / Total Effectiveness reaching: **75,7% / 87,9% / 74,7%***

*Effectiveness given for 316 FPM (1,6 m/s) air face velocity Sorption wheel



Heat Transfer Media

Humidity transfer coating based on 3Å molecular sieve for odor-free operations:

“Sorption” coating – for highest rate of latent heat transfer (humidity) between supply and return air

Compliance with standards

AHRI Standard 1060 – „Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment”, Accordance certified by **AHRI Certification**



Motor

3-phase asynchronous motor fitted for **VFD operations**

Wide range of power supply options:

208-230/380/460V/3

575V/3

230/400V/3

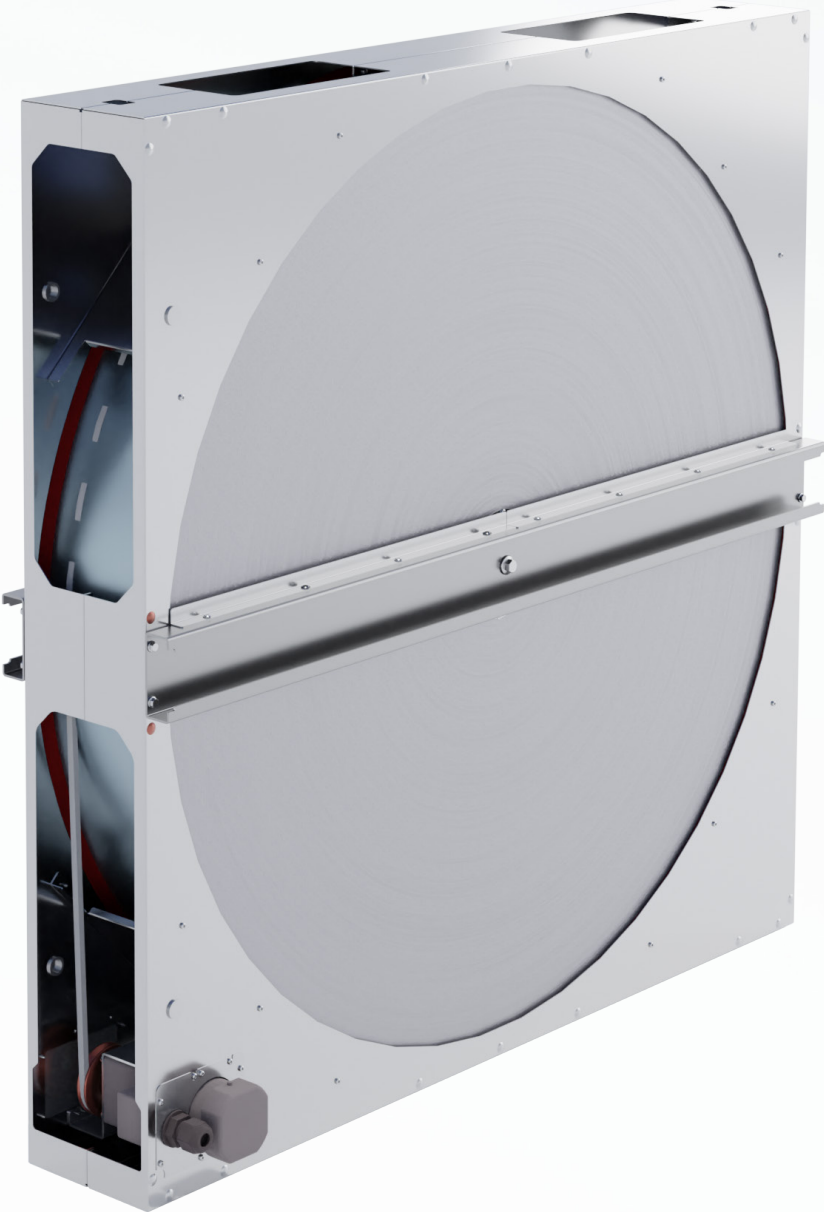
Drive

Compact, highly efficient and reliable planetary gear fitted for wide wheel revolutions adjustment

Segment belt enabling easy replacement, addition or removal of individual links



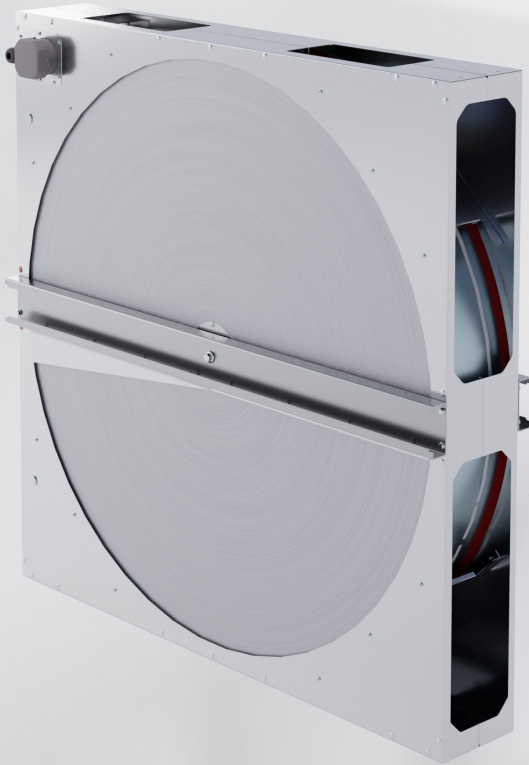
**SWISS
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RT

8" Energy Recovery Wheel

where **performance** is a priority



RT

8" Superb Performance Wheel

Model	Wheel Diameter	Dimensions (WxHxD) [in]	Minimum Airflow	Maximum Airflow
RT-21	21 in	24 × 24 × 8.5	230 CFM	1 200 CFM
RT-27	27 in	29 × 29 × 8.5	350 CFM	1 800 CFM
RT-32	32 in	34 × 34 × 8.5	540 CFM	2 710 CFM
RT-37	37 in	40 × 40 × 8.5	760 CFM	3 800 CFM
RT-42	42 in	44 × 44 × 8.5	920 CFM	4 600 CFM
RT-48	48 in	50 × 50 × 8.5	1 200 CFM	6 310 CFM
RT-54	54 in	62 × 62 × 8.5	1 620 CFM	8 080 CFM
RT-60	60 in	56 × 56 × 8.5	2 030 CFM	10 130 CFM
RT-66	66 in	68 × 68 × 8.5	2 420 CFM	12 110 CFM
RT-70	70 in	78 × 78 × 8.5	2 740 CFM	13 710 CFM
RT-76	76 in	72 × 72 × 8.5	3 240 CFM	15 700 CFM
RT-83	83 in	85 × 85 × 8.5	3 650 CFM	18 000 CFM

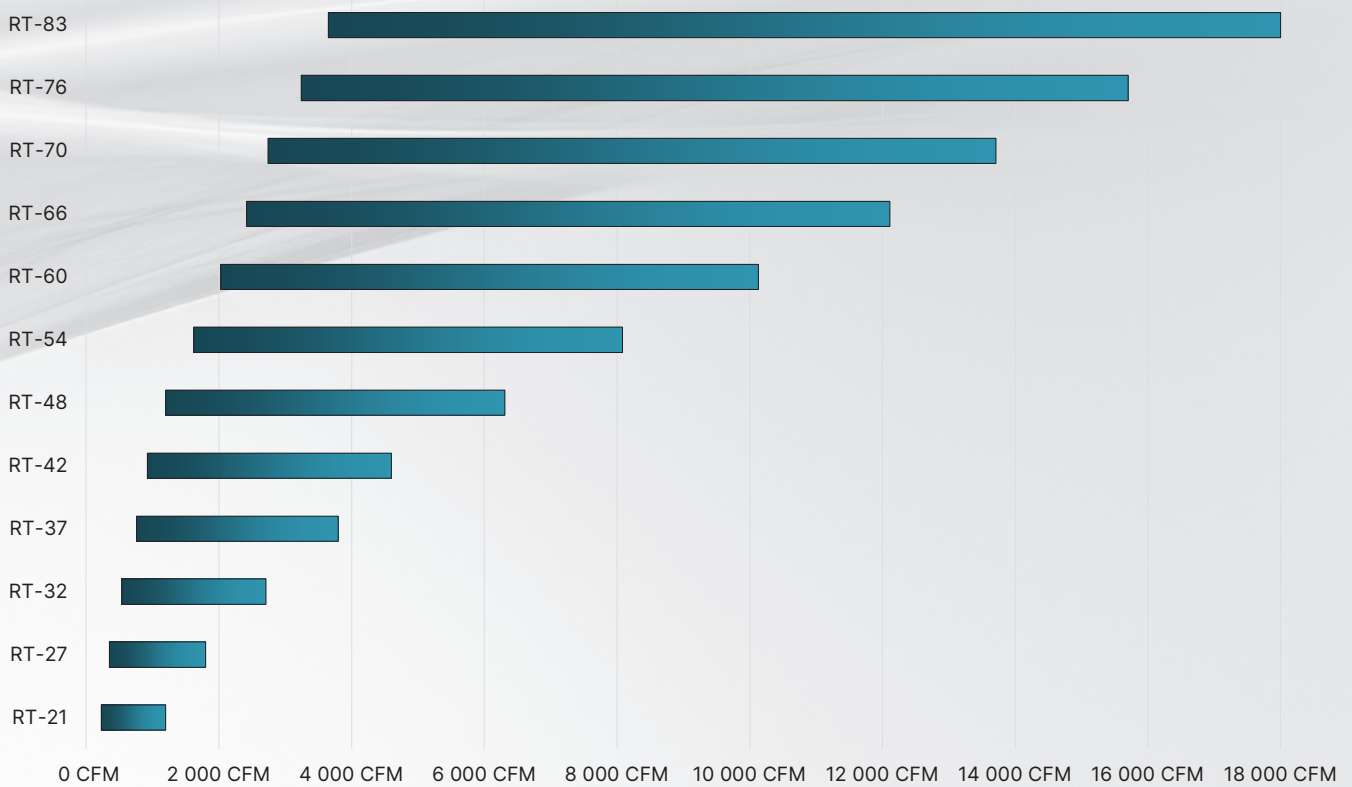
Application

Air handling units and rooftop units

Supply and exhaust mechanical ventilation systems with the required highest possible energy recovery performance

Systems that require moisture recovery in winter and support for air dehumidifying in summer

Ventilation systems designed to operate in climatic conditions favoring frost formation within the energy recovery system



Heat Transfer Media

Aluminum foil – for most efficient sensible heat transfer with humidity transfer based on condensation

Humidity transfer coating based on 3Å molecular sieve for odor-free operations:

„**Condensation**” – supporting latent heat transfer based on condensation

„**Enthalpy**” – supporting latent heat transfer (humidity) based on differences in the molecular pressure of water contained in the air and the coating

„**Sorption**” coating – for highest rate of latent heat transfer (humidity) between supply and return air

Design & Performance

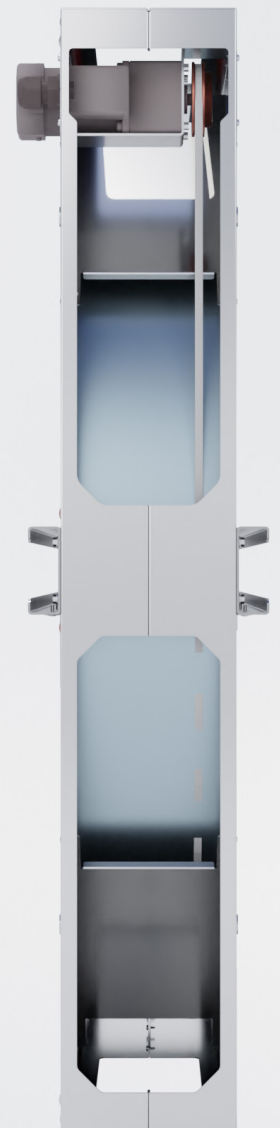
Monolithic construction of the heat accumulation structure based on a patented foil forming technology that interlocks subsequent foil layers

Sensible / Latent / Energy Efficiency reaching: **84,5% / 87,5% / 83,7%**

Double peripheral sealing system to prevent cross-contamination and boost the heat recovery efficiency by additional 2%

Compliance with standards

AHRI Standard 1060 – „Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment”, Accordance certified by **AHRI Certification**

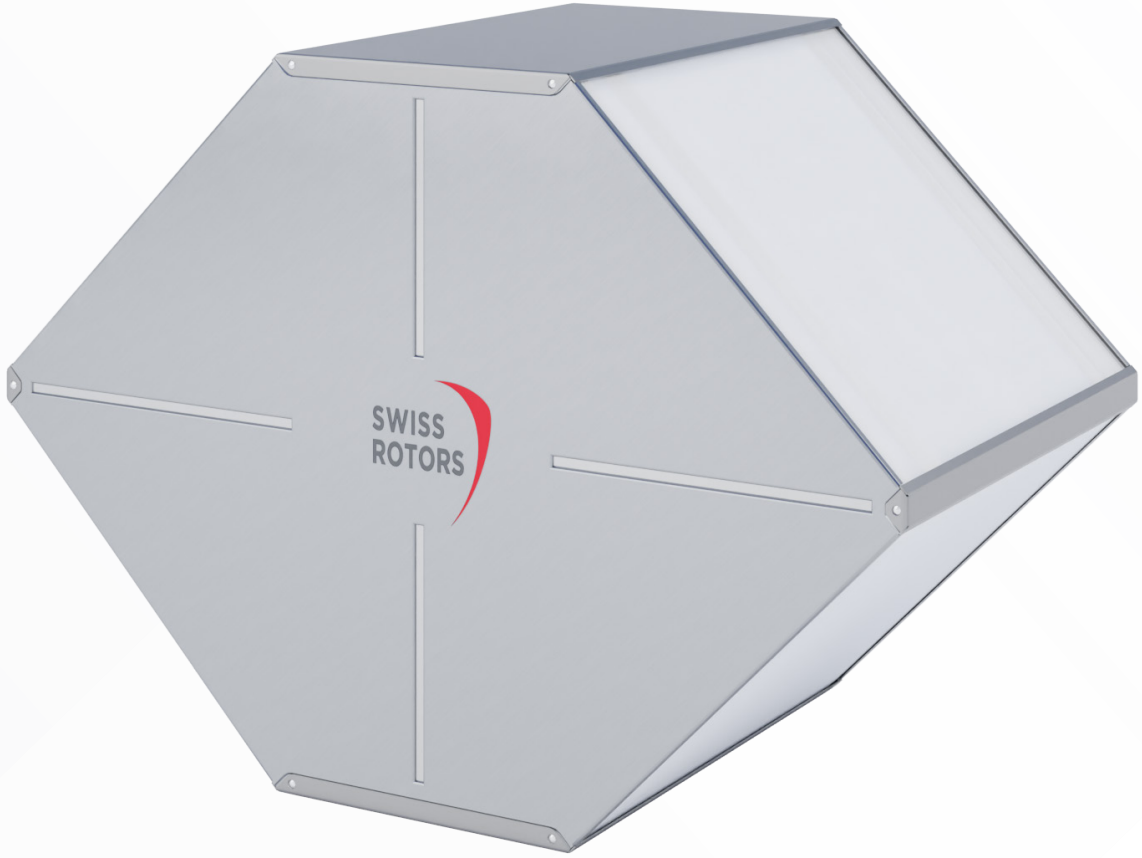


**SWISS
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CA, CP

Core Heat Exchangers





Application

Air handling units and rooftop units

Supply and return mechanical ventilation systems with the required highest possible energy recovery performance at zero cross-contamination effect

Design

A system of alternating plates creating a counterflow system of air channels

Advanced plate embossing technology ensuring their strengthening and development of the maximum heat exchange surface

Two options of plate spacing:

3 mm – for ventilation systems in which achieving high heat recovery efficiency must go hand in hand with low air flow resistance

2 mm – for ventilation systems where the efficiency of the heat recovery process is a priority

Heat recovery efficiency reaching **82,7%***

Heat Transfer Plates

Aluminum plates – For all comfort ventilation systems and selected industrial ventilation applications

Polymer plates – For all residential, comfort and selected industrial ventilation except for systems where the presence of volatile substances that may react with polymers is possible

Compliance with Standards

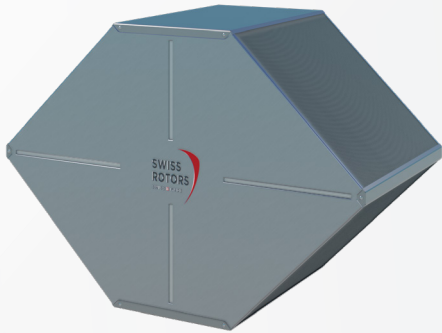
COMMISSION REGULATION (EU) No 1253/2014 – minimum efficiencies for heat recovery systems applied to ventilation units

EN 308 – „Test Procedures For Establishing Performance Of Air To Air And Flue Gases Heat Recovery“, accordance certified by EUROVENT CERTITA

VDI 6022 / SWKI va104-01 – „Ventilation and indoor-air quality - Hygiene requirements for ventilation and air-conditioning systems and units (VDI Ventilation Code of Practice)“

CA, CP

Core Heat Exchangers



CA

Aluminum Plates

Model	Plate material	Plate spacing	L	H	W*
CA-2-27	Aluminum	2 mm	19,5 in	10,7 in	8,85÷31,5 in
CA-2-31	Aluminum	2 mm	21,1 in	12,3 in	8,85÷31,5 in
CA-3-31	Aluminum	3 mm	21,1 in	12,3 in	8,85÷31,5 in
CA-2-39	Aluminum	2 mm	24,4 in	15,5 in	8,85÷31,5 in
CA-3-48	Aluminum	3 mm	27,7 in	18,9 in	8,85÷31,5 in



CP

Polymer Plates

Model	Plate material	Plate spacing	L	H	W*
CP-HE-2-31	Polymer	2 mm	21,1 in	12,3 in	8,85÷31,5 in
CP-HE-3-31	Polymer	3 mm	21,1 in	12,3 in	8,85÷31,5 in
CP-HE-2-39	Polymer	2 mm	24,4 in	15,5 in	8,85÷31,5 in
CP-HE-3-39	Polymer	3 mm	24,4 in	15,5 in	8,85÷31,5 in

**SWISS
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HWA, HWP

**HexWall Energy
Recovery Systems**



HexWall Energy Recovery Systems

HWA, HWP

Application

Air handling units and rooftop unit

Supply and return mechanical ventilation systems with the required highest possible energy recovery performance at zero cross-contamination effect

Wide supported airflow ranges between **282 and 17 675 CFM**

Easy-to-use replacement for large cross-flow heat exchangers, significantly superior to them in terms of energy recovery efficiencies

Design

Compact, integrated heat recovery systems based on a matrix of counterflow exchangers

A system of alternating plates creating a counterflow system of air channels

Designed for easy installation in supply and exhaust air handling unit

Air bypass integrated with the HexWall system body

Plates spacing

3 mm – for ventilation systems in which achieving high heat recovery efficiency must go hand in hand with low air flow resistance

2 mm – for ventilation systems where the efficiency of the heat recovery is a priority.

Plates options

Aluminum plates (HWA) – For all comfort ventilation systems and selected industrial ventilation applications

Polymer plates (HWP) – For all residential, comfort and selected industrial ventilation with the exception of systems where the presence of volatile substances that may react with polymers is possible

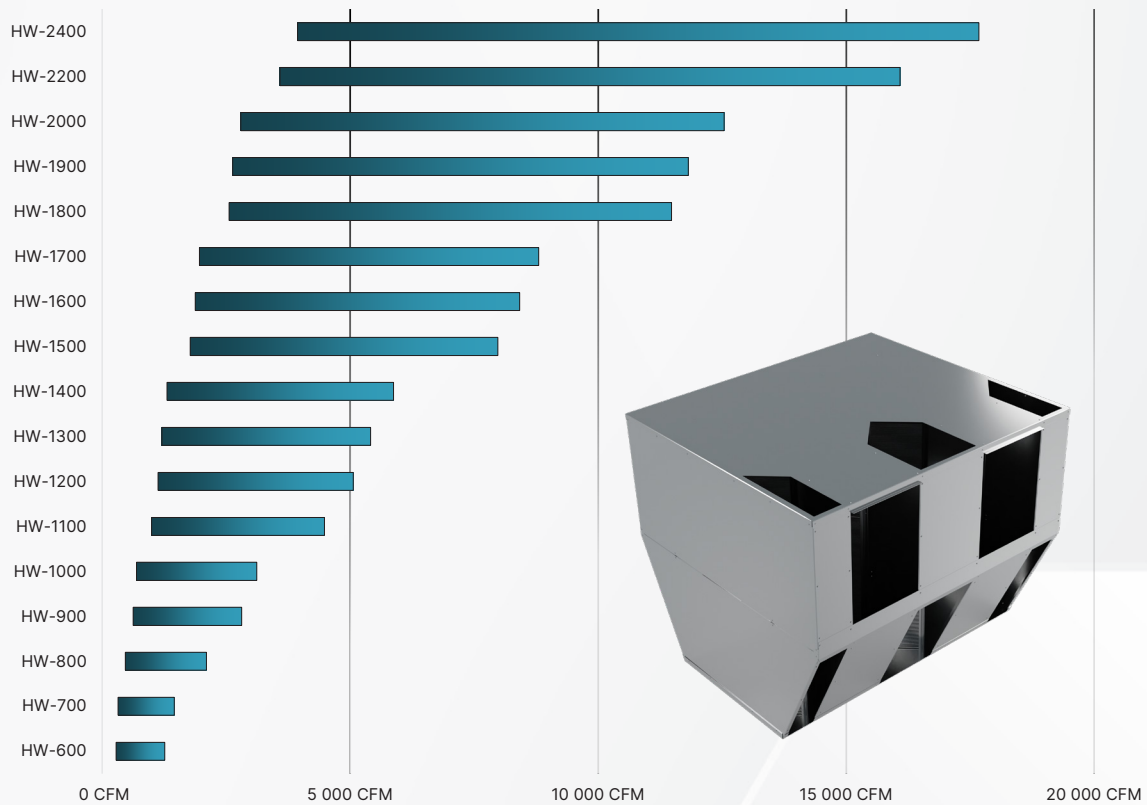
Compliance with Standards

COMMISSION REGULATION (EU) No 1253/2014 – minimum efficiencies for heat recovery systems applied to ventilation units

EN 308 – „Test Procedures For Establishing Performance Of Air To Air And Flue Gases Heat Recovery“, accordance certified by EUROVENT CERTITA

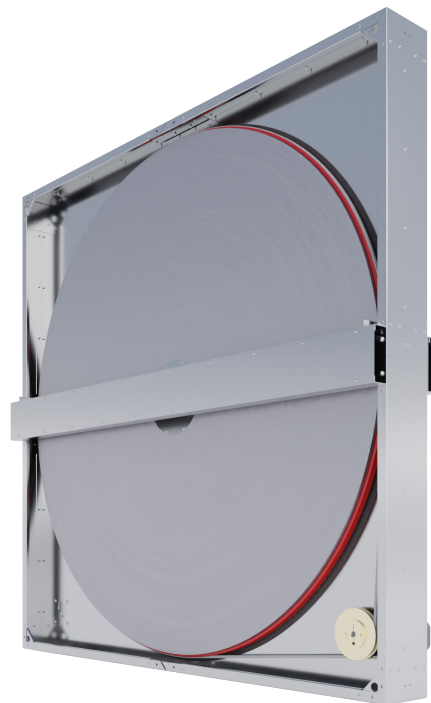
VDI 6022 / SWKI va104-01 – „Ventilation and indoor-air quality - Hygiene requirements for ventilation and air-conditioning systems and units (VDI Ventilation Code of Practice)“





Model	System Design	H	W	D
HW-600	Aluminum / Polymer	20,4 in	24,8 in	32,9 in
HW-700	Aluminum / Polymer	23,4 in	24,1 in	32,9 in
HW-800	Aluminum / Polymer	34,1 in	24,8 in	36,6 in
HW-900	Aluminum / Polymer	30,6 in	37,1 in	38,4 in
HW-1000	Aluminum / Polymer	33,5 in	37,1 in	38,4 in
HW-1100	Aluminum / Polymer	45,9 in	37,1 in	42,1 in
HW-1200	Aluminum / Polymer	40,8 in	49,4 in	43,9 in
HW-1300	Aluminum / Polymer	43,5 in	49,4 in	43,9 in
HW-1400	Aluminum / Polymer	46,9 in	49,4 in	43,9 in
HW-1500	Aluminum / Polymer	51,0 in	61,7 in	49,6 in
HW-1600	Aluminum / Polymer	53,8 in	61,7 in	49,6 in
HW-1700	Aluminum / Polymer	56,9 in	61,7 in	49,6 in
HW-1800	Aluminum / Polymer	73,5 in	61,7 in	56,8 in
HW-1900	Aluminum / Polymer	63,7 in	74,0 in	56,9 in
HW-2000	Aluminum / Polymer	67,0 in	74,0 in	56,9 in
HW-2200	Aluminum / Polymer	73,8 in	86,3 in	62,4 in
HW-2400	Aluminum / Polymer	80,4 in	86,3 in	62,4 in

SWISS ROTORS



USA

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