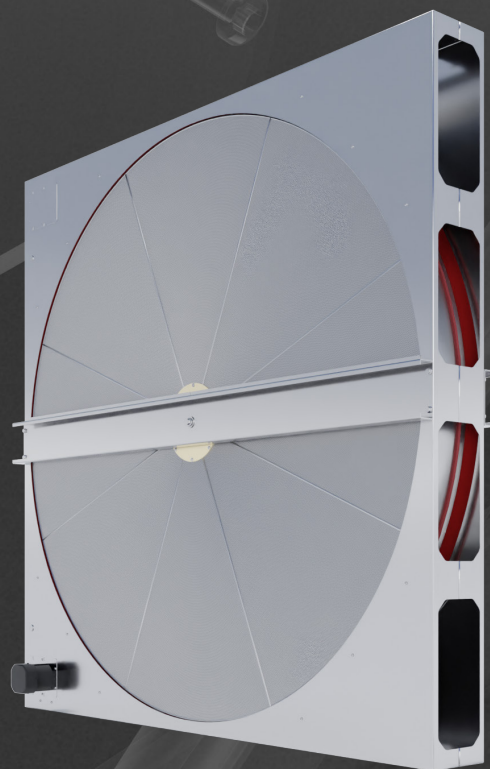


**SWISS
ROTORS**

RT

Energy Recovery Wheel





200 mm Energy Recovery Wheels

Overview

200 mm Energy Recovery Wheel equipped with housing, wheel drive system (motor & reduction), segmented belt and speed controller (optional).

Monlyth wheel design (Swiss Rotors patented design).

Wheel hub made of extruded aluminum, diameter between 150 and 250 mm (depending on wheel size).

For larger wheels (1200 size), 500 mm rods are applied to reinforce the wheel structure.

Fully enclosed and factory lubricated ball bearings, designed for over 200 000 hours of live time ($L_{10} = 20\ 000$ hours at 1 000 RPM, 3 000 kg). Maintenance free.

Working temperature range for motor and gear: -10 to +50 °C

Design

Housing type: Double wall.

Frame material: 1 to 1.5mm prime G90 hot-dip galvanized steel (DX51D+Z275), tested for corrosion resistance of 400 hours of salt spray.

Sealing

Housing type: Double wall.

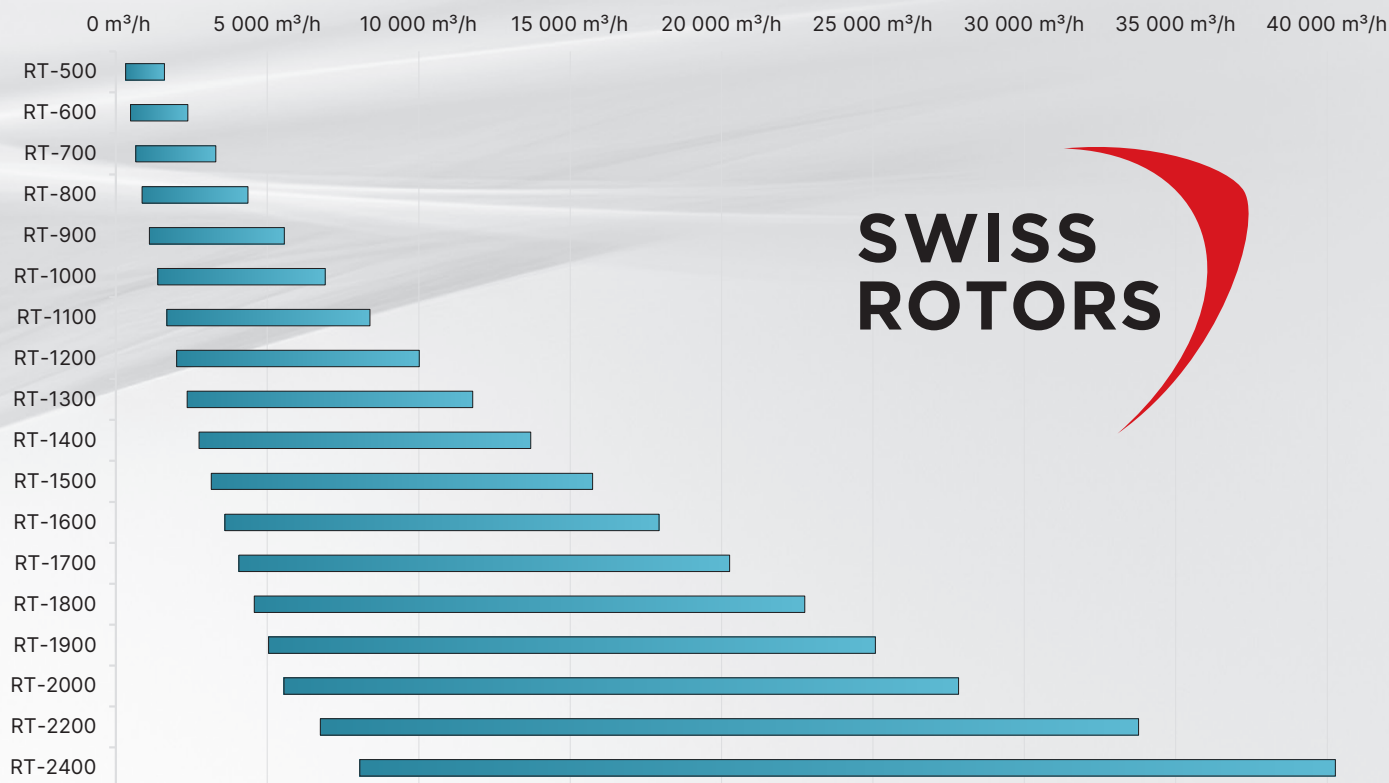
Frame material: 1 to 1.5mm prime G90 hot-dip galvanized steel (DX51D+Z275), tested for corrosion resistance of 400 hours of salt spray test.

System: twin on both sides of wheel.

Sealing on wheel peripheries: non-contact sealing type around both diaphragms, reinforced and industrial-grade fabric.

Sealing on central beams: durable brush seals along both central beams.

Model	Wheel Diameter	Body Dimensions* (WxHxD) [mm]	Minimum Airflow	Maximum Airflow
RT-500	500 mm	580×580×215	353 m³/h	1 767 m³/h
RT-600	600 mm	680×680×215	509 m³/h	2 545 m³/h
RT-700	700 mm	780×780×215	693 m³/h	3 464 m³/h
RT-800	800 mm	880×880×215	905 m³/h	4 524 m³/h
RT-900	900 mm	980×980×215	1 145 m³/h	5 726 m³/h
RT-1000	1 000 mm	1080×1080×215	1 414 m³/h	7 069 m³/h
RT-1100	1 100 mm	1180×1180×215	1 711 m³/h	8 553 m³/h
RT-1200	1 200 mm	1280×1280×215	2 036 m³/h	10 179 m³/h
RT-1300	1 300 mm	1380×1380×215	2 389 m³/h	11 946 m³/h
RT-1400	1 400 mm	1480×1480×215	2 771 m³/h	13 854 m³/h
RT-1500	1 500 mm	1580×1580×215	3 181 m³/h	15 904 m³/h
RT-1600	1 600 mm	1680×1680×215	3 619 m³/h	18 096 m³/h
RT-1700	1 700 mm	1780×1780×215	4 086 m³/h	20 428 m³/h
RT-1800	1 800 mm	1880×1880×215	4 580 m³/h	22 902 m³/h
RT-1900	1 900 mm	1980×1980×215	5 104 m³/h	25 518 m³/h
RT-2000	2 000 mm	2080×2080×215	5 655 m³/h	28 274 m³/h
RT-2200	2 200 mm	2280×2280×215	6 842 m³/h	34 212 m³/h
RT-2400	2 400 mm	2480×2480×215	8 143 m³/h	40 715 m³/h



**SWISS
ROTORS**

Heat Transfer Media

Corrugated Aluminum Foil – for the 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 the highest rate of latent heat transfer (humidity) between supply and return air.

Wave height – 1,6 mm (entire RT range).

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%***

Air pressure drop (minimum / maximum airflow): **74** - **344** Pascals

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

Compliance with standards

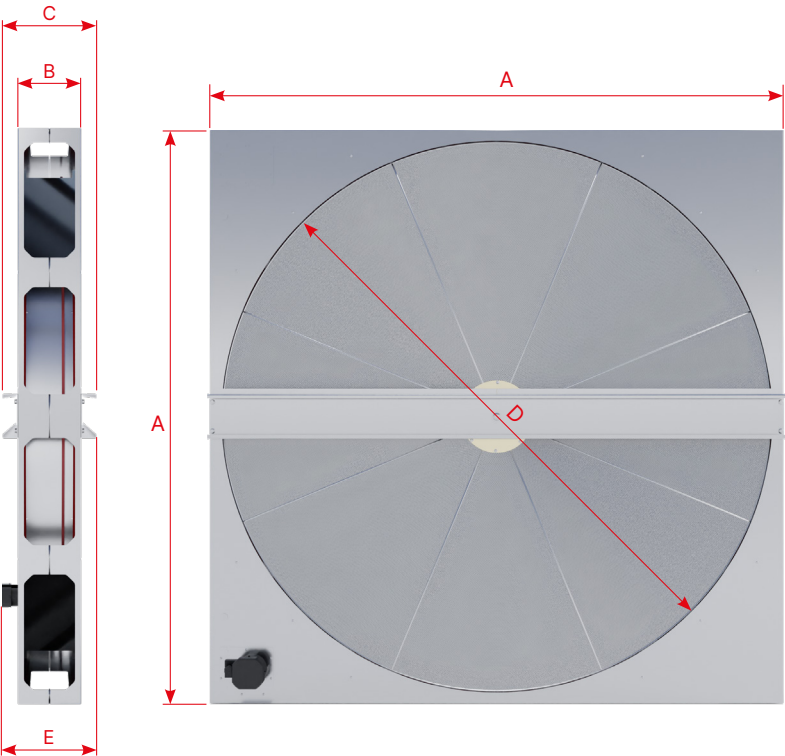
COMMISSION REGULATION (EU) No 1253/2014 – minimum efficiencies for heat recovery systems applied to ventilation units

VDI 6022, SWKI VA104-01 (hygienic standards)

EN 308 – „Test Procedures For Establishing Performance Of Air To Air And Flue Gases Heat Recovery” Accordance certified by **EUROVENT CERTITA**



Dimensions



Model	A	B	C	D	E
	[mm]				
RT-500	580	215	282	500	379
RT-600	680	215	282	600	384
RT-700	780	215	282	700	288
RT-800	880	215	282	800	292
RT-900	980	215	282	900	292
RT-1000	1 080	215	195	1 000	298
RT-1100	1 180	215	195	1 100	313
RT-1200	1 280	215	295	1 200	313
RT-1300	1 380	215	295	1 300	313
RT-1400	1 480	215	295	1 400	313
RT-1500	1 580	215	319	1 500	325
RT-1600	1 680	215	319	1 600	325
RT-1700	1 780	215	319	1 700	325
RT-1800	1 880	215	319	1 800	385
RT-1900	1 980	215	319	1 900	385
RT-2000	2 080	215	319	2 000	385
RT-2200	2 280	215	319	2 200	385
RT-2400	2 480	215	319	2 400	403

3Å molecular sieve ...for pure moisture recovery

Avoiding the transfer of contaminants, bacteria and odors is a significant challenge for modern energy recovery wheels design. The essence of this challenge is to limit the ingress of these pollutants while maintaining high moisture recovery performance in winter and effective air dehumidification in summer.

What **principles of physics** did we use?

- We assumed that the only substance we want to transfer between air streams is **water**, whose kinetic diameter is 2.65 angstroms ($1\text{\AA} = 1.0 \times 10^{-10}$ meters)
- We took advantage of the fact that virtually all other particles, which are undesirable odors, pollutants or bacteria, have a diameter much larger than water.

We have thus created the most technologically advanced Energy Recovery Wheel, with superb energy recovery performance, at the same time guaranteeing the best protection of ventilation systems hygiene.

