

I. Product specification

1. Overview.

- SF series is a complete set: 3A coated aluminum wheel, casing, sealing, drive belt, and EC motor with integrated VFD.
- Recovery type: total energy recovery (both sensible and latent).
- Airflow range: from 540 – 16 200 CFM.
- Wheel diameters: 32" – 76", with depth of 4".

2. Wheel Construction.

- Wheel structure: Monolith, without any segments – a patent-pending solution.
- Hub: made of extruded aluminum, diameter of 6" or 10", depending on wheel diameter. For wheel diameters over 70", reinforced with 18" spokes to reduce torque and eliminate material fatigue.
- Bearings: Permanently sealed and lubricated ball bearings. Oversized bearings designed for over 200 000 hours of duty (20 000 L10 hours of duty, 1000 rpm, 6000 lbs). Maintenance free.

3. Energy Recovery Solution.

- Transfer media: desiccant coated corrugated aluminum.
- Desiccant type: 3A molecular sieve as desiccant for fast absorption of moisture and antimicrobial properties.
- Cross-contamination: minimal - high selectivity desiccant absorbs only water molecules of 2.7A (only water molecules fits desiccant pores of 3A; most contaminants, e.g. ammonium >3A)
- Performance certification: 1060 AHRI Certified with ultra-low pressure loss.

4. Casing Frame

- Structure: double wall.
- Frame material: 15 to 18ga prime G90 hot-dip galvanized steel, tested for corrosion resistance of 400 hours of salt spray.
- Sizes: 9 industry standard casing – direct replacement for most polymer and aluminum wheels.
- Dimensions: wheel diameter + 2", since rigid structure allows to use bigger wheel diameters.

5. Sealing.

- 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.

6. Motors.

- Motor type: EC Motor as standard: high efficiency with controls (exceeds IE4), with integrated VFD.
 - Controls: 0-10V analog signal or ModBus digital connection.
 - Voltage: 1 phase: 115V / 60Hz. Max power is 0.6hp.
 - Optional: 3 phase AC motors – 208-230V/60Hz, 400V/50-60Hz and 460/60Hz. Max power 1hp.
- Other options may be available upon request.
- Electrical safety: All motors are UL recognized components.

7. Belt Drive System.

- Standard: Timing belt, made of steel-reinforced composite, no slippage, dust free.
- Optional: Segmented belt, durable polyurethane composite, dust free.

8. Cleaning, Purge.

- Purge section: provided as standard, for applications that require additional elimination transfer of exhaust air into the supply air.
- Transfer media: cleanable with high-pressure air or water at 500psi, temp. up to 80°F, at distance over 2ft), without flooding the motor.

9. Warranty.

- Terms: 3-Year limited warranty on energy recovery exchanger and all components.

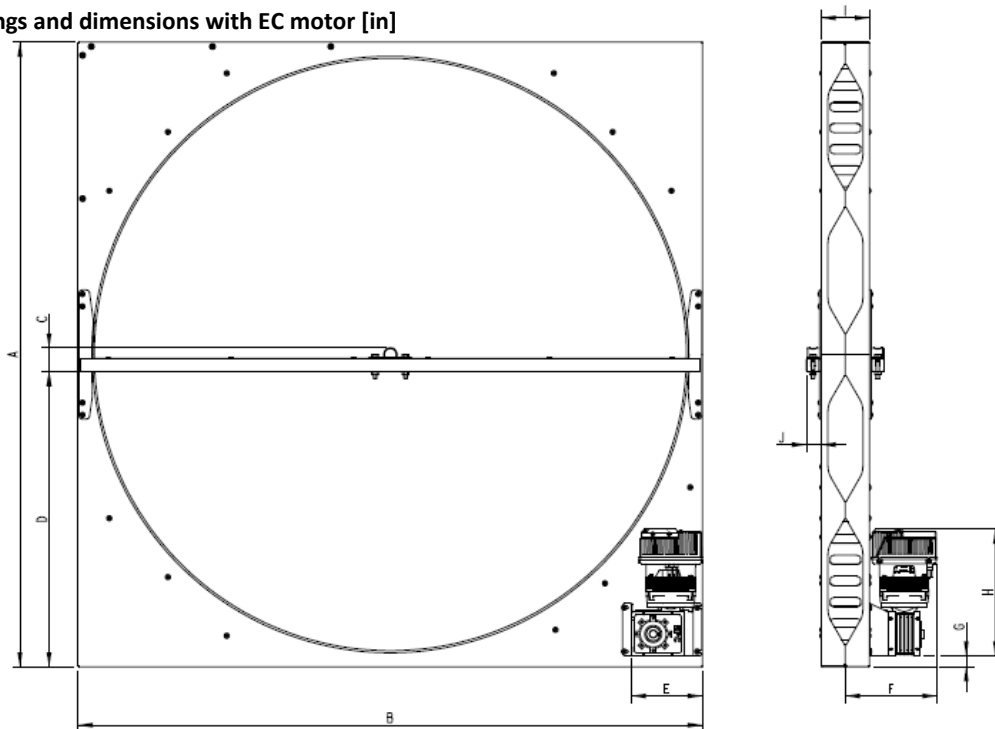


II. SF Series - technical data:

1. Energy recovery model sizes and performance details at velocity range of 200 – 1000 fpm (min / max):

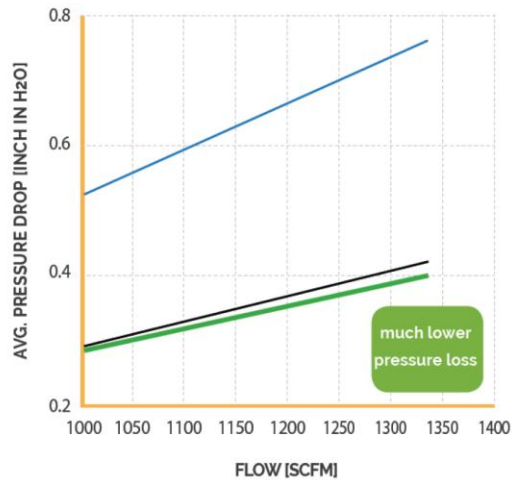
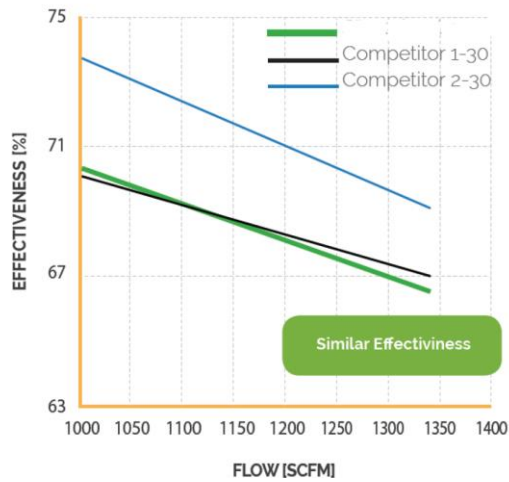
SF series	UWC/ERC Wheel diameter Others	Wheel diameter Swiss Rotors	WidthxHeightxDepth	Total weight	AIRFLOW	Effectiveness min/max			Pressure loss
Model	in	in	in	lbs	SCFM	Sensible%	Latent%	Total%	iwg
SF-32	30	32	34x34x4.36	75	540-2 710	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-37	36	37	40x40x4.36	98	770-3 840	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-42	41	42	44x44x4.36	117	960-4 780	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-48	46	48	50x50x4.36	147	1 260-6 310	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-54	52	54	56x56x4.36	182	1 620-8 080	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-60	58	60	62x62x4.36	221	2 030-10 130	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-66	64	66	68x68x4.36	260	2 420-12 110	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-70	68	70	72x72x4.36	290	2 740-13 710	75%-53%	82%-50%	78%-53%	0.08-0.95
SF-76	74	76	78x78x4.36	338	3 240-16 200	75%-53%	82%-50%	78%-53%	0.08-0.95

2. Casing drawings and dimensions with EC motor [in]




Model	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
SF-32	864	864	54	393	163-170	210	25	314	110	34
SF-37	1010	1010	54	466	163-170	210	25	314	110	34
SF-42	1118	1118	54	519	163-170	210	25	314	110	34
SF-48	1270	1270	54	596	163-170	210	25	314	110	34
SF-54	1427	1427	54	674	163-170	210	25	314	110	34
SF-60	1585	1585	64	743	163-170	210	25	314	110	34
SF-66	1727	1727	74	804	163-170	210	25	314	110	34
SF-70	1829	1829	74	855	163-170	210	25	314	110	34
SF-76	1981	1981	74	931	163-170	210	25	314	110	34

II. AHRI certified performance and comparison with leading competitive brands:



Performance benefits of SF-series:

- 1060 AHRI certified and independently tested wheel performance.
- SF-series wheels outperform leading brands of polymer and aluminum wheels, due to monolith wheel structure (no segments) and bigger diameters, for the same casing size.
- **Pressure loss advantage of 0,35in wg / 87 Pa over polymer wheel means lower fan power, at similar recovery effectiveness. Only 0.41in wg pressure loss at nominal airflow.**
- Exceeds effectiveness requirements set forth in ASHRAE 90.1 and is well below allowed leakage level set in ASHRAE 61.2
- Complete list of certificates is available on AHRI site: www.ahridirectory.org
- **Combination of low pressure loss and high effectiveness allows to achieve highest Recovery Efficiency Ratio (RER), means greater net benefits from installing SF-series wheel.**



Certificate of Product Ratings

AHRI Certified Reference Number : 202141318 Date : 06-13-2018 Model Status : Active
 Old AHRI Reference Number :
 Brand Name : Swiss Rotors
 Product Type : Wheel
 Model Number : SF-32

Rated as follows in accordance with the latest edition of ANSI/AHRI 1060 (I-P) Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing.

Nominal Air Flow (scfm) : 1340
 Pressure Drop (at nominal airflow, in. H₂O) : 0.41

Leakage Ratings	PressureDiff	EATR(%)	OACF	PurgeAngle
Test 1 :	0	1.9	1.01	N/A
Test 2 :	0.5	0.0	1.00	7
Test 3 :	1	0.8	1.06	N/A

	Sensible(%)	Latent(%)	Total(%)
100% Air Flow Heating :	66	70	67.4
75 % Air Flow Heating :	69	76	71.4
100% Air Flow Cooling :	64	60	62.6
75% Air Flow Cooling :	67	68	67.3

	Net Sensible(%)	Net Latent(%)	Net Total(%)
100% Air Flow Heating :	63.3	69.4	66.7
75 % Air Flow Heating :	66.4	75.5	70.8
100% Air Flow Cooling :	63.3	59.2	61.9
75% Air Flow Cooling :	66.4	67.4	66.7


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WARNING: This certificate is not to be used for marketing purposes. The new published rating is shown along with the previous (i.e. N/A) rating.

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