fantech®
a systemair company

Light Commercial Ventilation Products

Heat & Energy Recovery Ventilators

Light Commercial Ventilation Series

Design and install an energy efficient ventilation system with a small footprint ventilator.

The SHR/SER Series of Heat and Energy Recovery ventilators is part of Fantech's product line for light commercial applications.

These ventilators are standard, pre-configured with airflows between 450 and 1400 cfm (220 to 675 l/s). Ease in selection, installation, commissioning and maintenance are reasons why design engineers and HVAC contractors choose these Series. Flexibility and a small footprint make it easy to fit the ventilator in a mechanical room with limited floor space.

Product Highlights

FAST DELIVERY

Don't let delivery of the ventilation equipment impact your project. These ventilators are shipped in 4-6 weeks - no delay. However, large quantity jobs will still need to be quoted out. Contact a sales representative if a shorter lead time is required.

REVERSIBLE DOOR PANELS

The ventilator is equipped with reversible door panels that can be switched to allow access for service.

FILTERS

The ventilators come with a MERV3, an excellent starter filter. Upgrade to a MERV8 or MERV13 filter to better filter out pollutants from the outdoor air and improve indoor air quality.

EASE OF MAINTENANCE

The supply and exhaust fan motors and the core are mounted on removable sliding rails for quick access and easy service.

DEFROST

The ventilator is equipped with a supply fan shutdown defrost to prevent the heat recovery core from freezing and maximize performance in cold climates. A recirculation defrost option is available on SHR models, see bypass damper for recirculation defrost.

Need to know how to specify a space like this one? Go to page 6 for specification data.

Bypass damper for recirculation defrost*

Used in colder climates or high humidity applications.

The outdoor air intake is closed to allow the warm air from the building pull through the core to warm it up preventing from freezing.

*SHR Series only

MERV3
MERV3 filters are able to capture about 20% of particles down to 3-10 microns in size.

*Comes standard with each ventilator

MERV8
MERV8 filters are able to capture 20% of particles down to 1-3 microns in size and 70% of particles down to 3-10 microns in size.

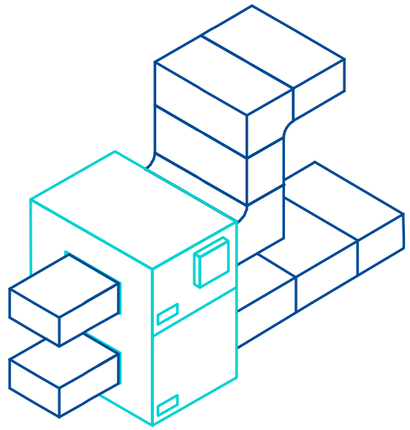
MERV13
MERV13 filters are able to capture 50% of particles down to 0.3-1 microns in size, 90% of particles down to 1-3 microns in size and 95% of particles down to 3-10 microns in size.

WHAT IS A MICRON?

A micron is a measurement of particle size. One micron is one-millionth of a meter or one twenty-five thousandth of an inch.

Indoor Installation

SHR/SER Series of heat and energy recovery ventilators are complete air handling solutions with energy efficient supply air and extract air fans, supply air and extract air filters, heat or energy recovery core and integrated control system that can optimize airflow based on ventilation scenarios in your build.



Specification Data

Models with Heat Recovery		SHR 450	SHR 700	SHR 800	SHR 1200	SHR 1400
Airflow @ 0.4"	cfm	464	720	795	1215	1425
Voltage	V	120	120	120	120	120
Phase	~	1	1	1	1	1
Current	A	4.0	5.6	5.3	11.2	10.6
Power rated	W	470	670	636	1340	1272
Efficiency @ 0.4"	cfm/W	1.0	1.1	1.3	0.9	1.2
Heating Effectiveness Sensible[1]	%	56	55	55	55	52
Weight	kg lbs	66 146	98 215	72 158	114 252	107 236

1 Effectiveness data relating to AHRI 1060 Standards

Models with Energy Recovery		SER 450	SER 700	SER 1100	SER 1300
Airflow @ 0.4"	cfm	468	707	1179	1300
Voltage	V	120	120	120	120
Phase	~	1	1	1	1
Current	A	4.17	5.58	11.17	10.8
Power rated	W	500	670	1340	1300
Efficiency @ 0.4"	cfm/W	0.9	1.1	0.9	1.0
Heating Effectiveness Sensible/Latent/Total[1]	%	63/46/59	54/35/50	54/35/50	54/35/50
Cooling Effectiveness Sensible/Latent/Total[1]	%	63/42/58	51/32/49	51/32/49	51/32/49
Weight	kg lbs	60 132	77 169	95 210	94 208

1 Effectiveness data relating to AHRI 1060 Standards

Demand controlled ventilation with ECO-Touch® IAQ

The controller is designed to operate the ventilator in various modes based on user preferences. When the indoor air quality is at its best, you are rewarded with 3 leaves. Watch the leaves icon, it will help you establish your homes ventilation requirements and lend a helping hand on improving your IAQ score.

Automatic operation of the ventilator is enabled via ECO Mode. It optimizes the performance of the appliance based on the indoor air quality, indoor relative humidity (RH) and outdoor conditions. Customize the ECO mode to meet individual needs. The controller will allow the appliance to increase airflow capacity automatically based on the total VOC level.

TVOC Sensing Technology

- Recognizes presence of total volatile organic compounds known as TVOCs such as cleaning solvents, cooking odors

Ramps up the airflow

- Increases supply and exhaust airflow to remove contaminated air while bringing the fresh air in
- Can be customized based on user preferences
- Available at your favorite HVAC distributor

Adamsdale Public School

Before COVID-19, teachers could ventilate their classrooms naturally by opening a window, cracking open a door, turning on a fan, or all three. Fast-forward to present-day, and schools across the world now realize natural classroom ventilation methods alone cannot adequately ventilate the room. To ensure proper classroom ventilation, mechanical ventilation solutions are needed.

In the summer of 2020, the Rainbow District School Board reached out to Fantech representatives for help. The board ended up installing 50 Energy Recovery Ventilators (SER 700s) in the classrooms of Adamsdale Public School. One year since the completion of this project, Fantech reached out to the school board to see how this project panned out. Sandi Ackroyd, Manager of Capital Projects at the Rainbow District School Board, spoke with Fantech, and she presented us with the challenge.

Like most school boards before the pandemic, the Rainbow District School Board did not need real mechanical ventilation solutions in their schools because they did not see value in it over utilizing natural ventilation methods. Many of their schools were built decades before local building codes required mechanical ventilation, and therefore these schools would need to be retrofitted, so the need never arose—until COVID-19 reared its ugly head. They then found out that the lack of indoor ventilation was going to be an issue sooner rather than later.

> "We needed indoor ventilation to get through the pandemic, but also to provide ventilation to schools that were exempt from the updated building code," Sandi told us. "We felt all of our schools would benefit from added ventilation, so we decided it was the correct move to purchase ventilation units and install them as fast as possible."

After the purchase of the units in the summer of 2020, the updates quickly started thereafter. The project began in September, 2020, and they were able to finish the renovations in January, 2021.

> "By purchasing the units in bulk, we were able to get a lot of ventilation in a very short amount of time," Sandi said.

One of the older schools, the Adamsdale Public school was one of the recipients of the new ventilation equipment. The school is a Kindergarten through sixth grade elementary school that places academic, athletics, and character education at the top of their priority list. According to Sandi, their first step was to ensure the classrooms had some sort of mechanical ventilation. And their next step? They needed to mask the sound of the units. Wait, does that mean Fantech units are noisy?

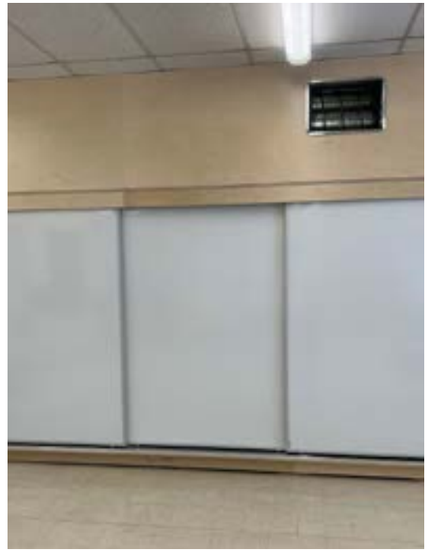
> "No, no, it's not that the units are loud, but that the teachers are not used to noise at all! So, to reduce the noise, we incorporated millwork around the units and placed a 21st century wall in front of it," said Sandi. "We had sliding white boards attached in front of the unit from the floor to about three feet below the new drop ceiling. This created a unique opportunity for the students to get involved with class, and gave teachers more space for their lessons."

Over a year has passed since Adamsdale received and installed multiple SER 700s, how have things changed for students and faculty? Sandi told Fantech:

> "The minute we installed ventilation at Adamsdale, you could just feel the breath of fresh air. We also have seen less attendance issues amongst our teaching staff—whether that is attributed to wearing masks or the added ventilation, we don't know. However, the added ventilation certainly does not hurt."

It makes sense that the Rainbow District School Board recognized ventilation as an issue as early as they did, as forward-thinking is incorporated throughout their schools. In particular, the Adamsdale public school was named as a "School On The Move" by the Literacy and Numeracy Secretariat because of their research-based strategies to support continuous improvement in student achievement. Their school has a 'Me to We' club where students recycle drink pouches and used batteries. They collect milk bags to make rugs for Haitians, promote litter-less lunches, and participate in volunteer opportunities in their community. They also raise funds throughout every school year, and donate these funds to a charity of their choice.

SER 700s are inherently quiet, but since the teachers at Adamsdale are not used to noise of any kind, the contractors were able to remedy the situation by dropping the ceiling and placing large sliding white boards in front.



The Village Square at Pineridge Hollow

Located off the edge of the north-west side of West Pine Ridge, MB Canada, The Village at Pineridge Hollow is an escape from the commotion of city life. Built in 2022, The Village was constructed on forest land and is still able to showcase much of that aspect to this day.

What once was a small country gift shop has expanded to become a multi-use location with 9 separate, carefully selected and locally owned businesses plus the original gift shop itself. Local favorite eateries are included on the property as well as a grocery & specialty food store. Katrina Klassen, Vice President at Pineridge Hollow, said choosing the right vendors will be instrumental to building a community:

> "We wanted the right group of businesses that complemented each other without having multiple competitors in a single area. But not only was it about the type of businesses we included at The Village, it was about the business owners and entrepreneurs that operate the businesses. So, we chose individuals that have a similar mindset [to ours] and want to be a part of the community; not just because they would have a good place to operate their business."

Other experiences include walking trails, a petting zoo, a stage for live performances, The Village Market—which can host events upwards of 250 people, is a farmer's market on special occasions, and also can become a skating rink—plus all that Manitoba's nature can offer.

One of the main eateries at The Village is known as The Village Square, or The Square. Recognized by locals as the spot where the community comes to meet, listen, and share, The Square is a fully licensed pub and eatery. Additionally, the local franchise, Nuburger, joins The Square momentarily throughout the weekend to serve their delicious burgers and homemade house sauces.

While the final design stands out, the designers of The Village—to comply with the 2010 National Building Code of Canada—needed a light commercial Heat Recovery Ventilator to provide fresh air at a rate designated by the code within The Square. Section 6.3.1.1.2 of the 2010 NBC code reads,

> "... outdoor air shall be supplied to buildings for ventilation purposes in accordance with one of the following Sections of ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality," as a minimum:

Section 6.2, Ventilation Rate Procedure, excluding the exception stated in Section 6.2.7.1.2 and note H of Table 6.2.2.1...."

Therefore, according to Section 6.2.7.1.2, bars, cocktail lounges, and kitchens in the food and beverage service must provide an outdoor airflow rate of 7.5 cfm per person (or 0.18 cfm/ft^2). In a typical, fully-packed restaurant, upwards of 150 people could be in the restaurant at any time—which would require 1,125 cfm of outdoor airflow rate.

To satisfy this project, the designers chose Fantech's SHR light commercial Heat Recovery Ventilator (HRV). The SHR ventilator is designed to supply fresh air into a building while exhausting an equal amount of contaminated air to the outdoors, all while simultaneously tempering the incoming air with sensible energy through the aluminum heat exchanger. The installing team, Southern Comfort Mechanical Inc. (SCMI) ducted the HRV to exhaust warm, stale air from the bathrooms while simultaneously introducing cool, fresh air to the dining area. This appliance ensures patrons experience fresh air indoors while staying comfortable throughout the stay.

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