GOLD SYSTEM APPLICATION SAMSUNG VRF

SUMMER

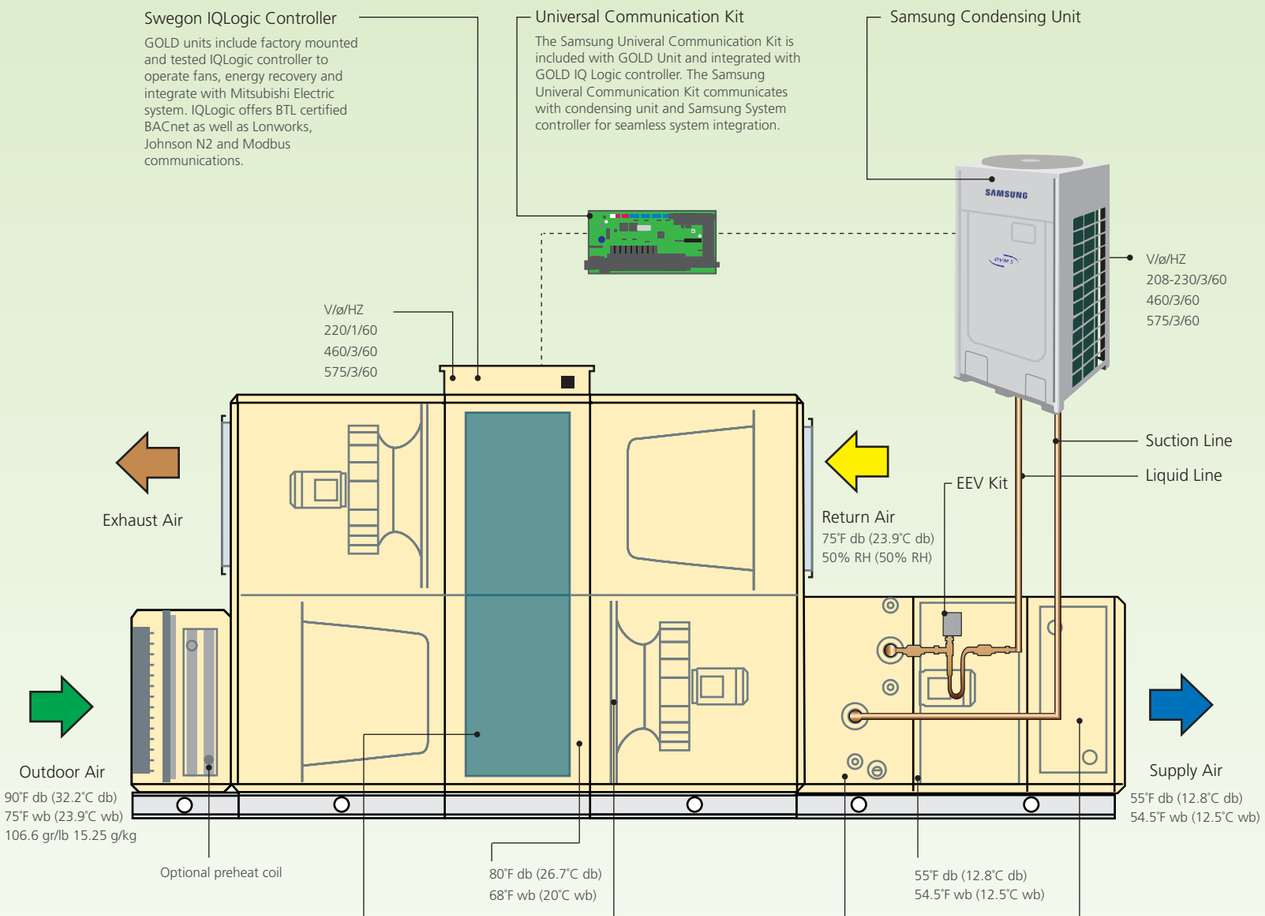
Swegon IQLogic Controller

GOLD units include factory mounted and tested IQLogic controller to operate fans, energy recovery and integrate with Mitsubishi Electric system. IQLogic offers BTL certified BACnet as well as Lonworks, Johnson N2 and Modbus communications.

Universal Communication Kit

The Samsung Univeral Communication Kit is included with GOLD Unit and integrated with GOLD IQ Logic controller. The Samsung Univeral Communication Kit communicates with condensing unit and Samsung System controller for seamless system integration.

Samsung Condensing Unit



Energy Recovery

Plates, runaround coils and enthalpy wheels available. Standard GOLD RX AHRI 1060 certified 3 ang. enthalpy wheel recovers 80% + of the total energy. Optional PassiveHouse certified GOLD RX models use special enthalpy wheel and recover 80% + of the total energy.

Fans

Special plenum fans design for high efficiency and low sound, direct driven by 220, 460 or 575 volt EC motors. Fans are variable flow and include airflow monitors. Variable airflow arrangements are limited to 50% turndown with DX cooling. Models are available from 500 to 16,000 cfm (0.24 to 7.55 m³s).

DX Coil

Samsung approved DX coil is factory mounted in GOLD unit, matched to Samsung condensing units. Actual capacity and leaving air conditions are customer selected based on project requirements. Coil includes stainless steel double sloped drain pan.

Optional Heating Coil

Optional passive reheat is available using a Samsung VRF reheat coil after the DX coil. Reheat allows dry air at neutral temperatures to be delivered to the space using recovered heat.

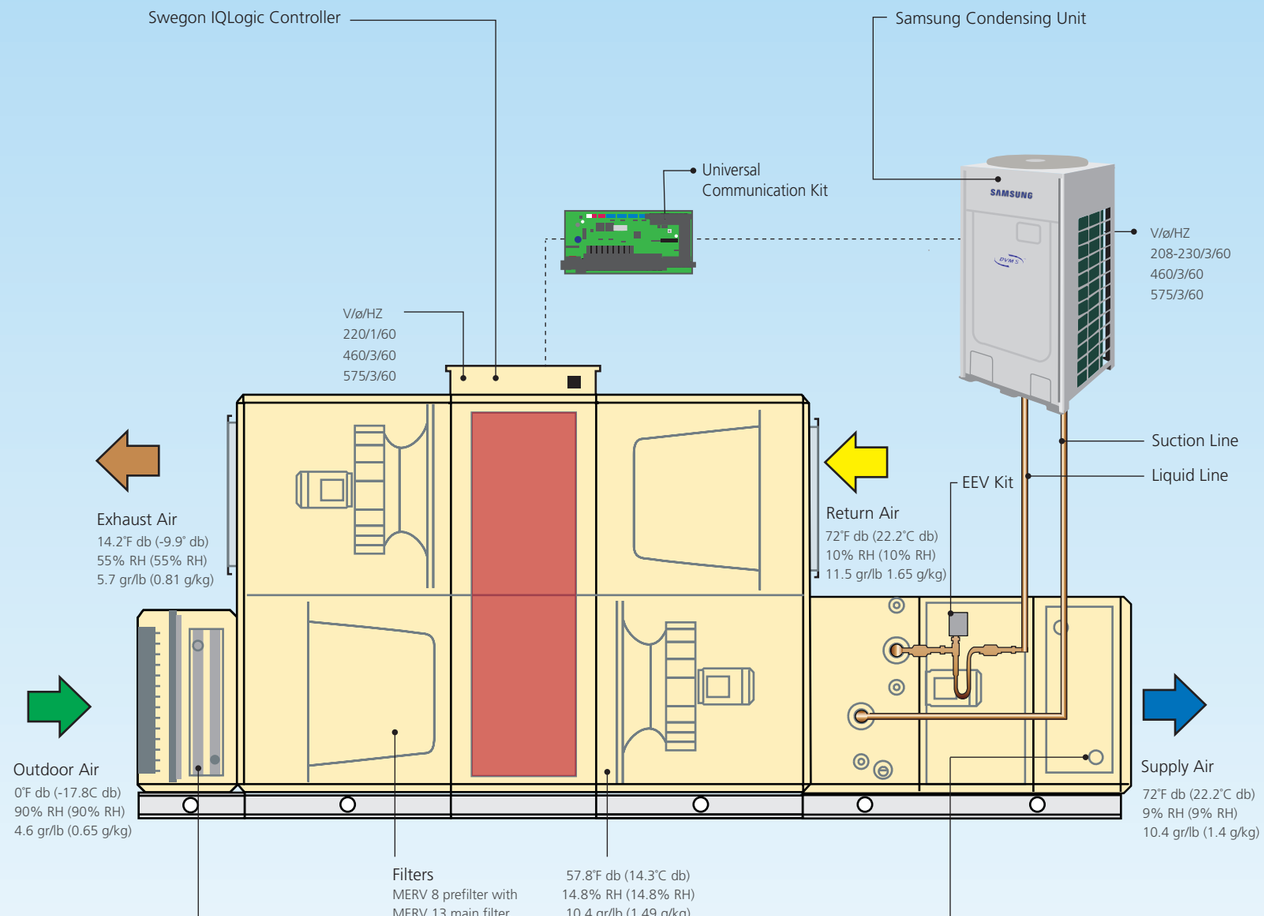
GOLD comes ETL certified from the factory which eliminates the risks and cost associated with in-field certification.

WINTER

Swegon IQLogic Controller

Universal Communication Kit

Samsung Condensing Unit



Optional Preheat

Optional preheat for very cold climates. Preheat outdoor air to avoid Hoar frosting and improve energy recovery. Preheat can be water (glycol) or electric. Winter filters available.

TIP: If chilled water is being produced in winter, use chilled water to preheat outdoor air.

Heatpump Heating

For improved energy savings, a Samsung heatpump condensing unit can be utilized to reduce the cost of heat. For typical applications the Samsung c heatpump can deliver enough heat at ambient temperatures above -13°F (-25˚C) at COPs above 3.6 to meet the required supply air temperature.

Air cooled heatpumps will require periodic defrost. During these periods a supplemental heat source will be required. This can be accomplished with hot water coil, electric heat or any other heat source that can accommodate a 0-10 vdc control signal.

Final Heating

Enthalpy wheel will recover most of the necessary heat to delivery neutral air. Using Swegon RecoFROST control, the supply air is typically 58 °F (14.4˚C) leaving the enthalpy wheel. Some defrost may occur lowering the supply air temperature to 30 °F (-1.1˚C) while defrosting.

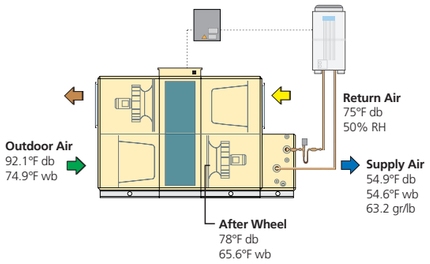
Final heating can be accomplished with hot water coil, electric heat or any other heat source that can accommodate a 0-10 vdc control signal.

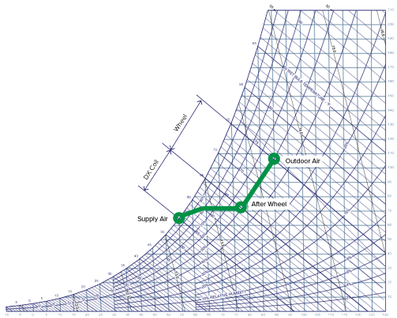
SAMSUNG

Swegon

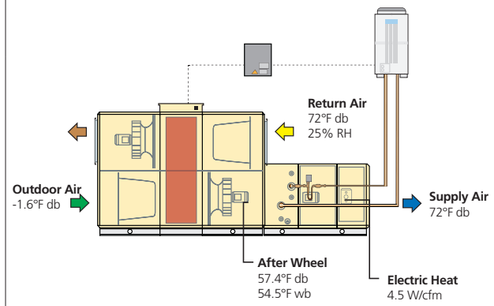
Swegon Performance	
Model	RX-25
Supply Air	4,500 CFM
Exhaust Air	4,500 CFM
SA External Static	1.5-2.2" e.s.p.
EA External Static	1.5-2.2" e.s.p.
Supply Fan	4.6 HP
Exhaust Fan	4.6 HP
Rotary Wheel Sensible Efficiency	82.5%
Summer Wheel Performance	
OA EDB Temp (F)	92.1
OA EWB Temp (F)	74.9
RA EDB Temp (F)	75
RA EWB Temp (F)	62.5
Summer Off Wheel DB	78
Summer Off Wheel WB	65.6
Rotary Wheel Latent Efficiency	72.5%
Winter Wheel Performance	
OA EDB Temp (F)	-1.6
RA EDB Temp (F)	70
RA EWB Temp (F)	51.5
Winter Off Wheel DB	57.4
Winter Off Wheel WB	54.5
Rotary Wheel Latent Efficiency	80.5%

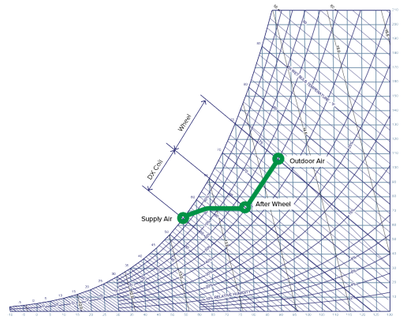
COOLING/HEATING



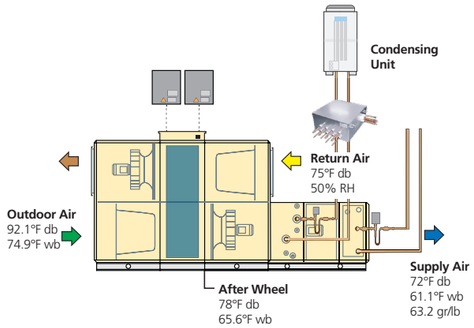


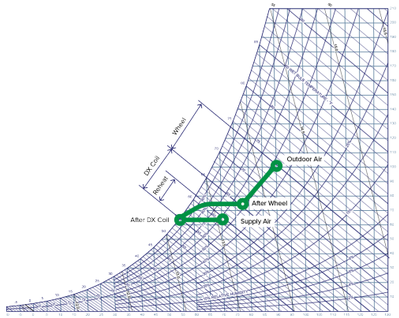
COOLING/HEATING WITH ELECTRIC AUX HEAT



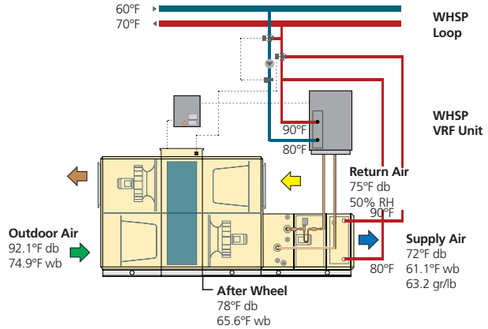


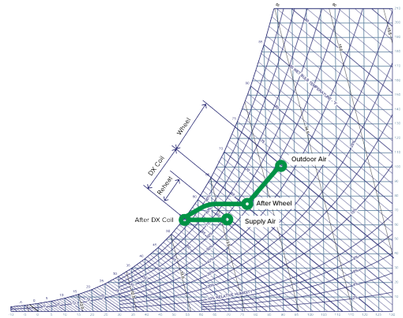
COOLING/HEATING WITH HOT GAS REHEAT COIL





COOLING/HEATING WITH CONDENSER WATER REHEAT





Package Performance				
Reheat Method	None	None	Heat Recovery Reheat	Hot Water Reheat
Cooling LAT DB	54.9	54.9	72	72
Cooling LAT WB	54.6	54.6	61.1	61.1
Grains	63.2	63.2	63.2	63.2
Heating LAT	72	72	72	72
Dimensions				
Cabinet Length	105.83"	150.71"	139.76"	139.76"
Cabinet Width	62.99"	62.99"	62.99"	62.99"
Cabinet Height	70.71"	70.71"	70.71"	70.71"
Air Cooled Unit Solution				
Condensing Unit	AM144FXVAJH2AA	AM144FXVAJH2AA	AM144FXVAJR2AA	N/A
Branch Controller	N/A	N/A	MCU-S6NEK3N	N/A
Water Cooled Solution				
Condensing Unit	N/A	N/A	N/A	AM144HXWAJR2AA
Branch Controller	N/A	N/A	N/A	N/A

Key Specifiable Standard Features:

1. ECM Motors, direct drive plenum fans, CFM airflow station on supply and return fans.
2. Enthalpy wheel is aluminum substrate with 3 angstrom molecular sieve desiccant, energy recover carry-over shall not exceed 0.45% as certified by a third party test agency.
3. Enthalpy wheel shall have stepper motor allowing speed control from 0.5 – 20 rpm. Unit controller shall manage rotor speed to optimize energy transfer, purge sector airflow, and avoid frosting.
4. Unit shall include factory installed and tested controls, field configurable to achieve specified operating functions. Controls shall maintain the airflow setpoint regardless of air density, filter loading or ESP.
5. Units shall be service accessible from one side. Filters shall be side loaded and seal against fixed frame on all four sides of each filter.
6. Entering air temperature should be 23°F or above to the coil in heat pump operation.
7. Unit shall include factory engineered integration between AHU and Samsung Universal
8. Unit shall include factory engineered integration between AHU and Samsung Universal Communication kit. Samsung Universal Communication kit and EEV kit shall be factory installed, including refrigerant piping, wiring of thermistors, and controls.