

ALL ROOFTOP UNITS (RTUs) ARE CONVENIENT, BUT MOST ARE WASTEFUL

Rooftop units (RTUs)—HVAC appliances installed on building roofs—supply heating and/or cooling to meet the thermal comfort requirements of commercial buildings. Inherently convenient, RTUs package heating, cooling and ventilation equipment together in a space that is accessible to technicians without taking up precious real estate. However, most RTUs are using much more energy than necessary.

EFFICIENT GAS ROOFTOP UNITS REDUCE ANNUAL HVAC ENERGY USE BY UP TO 40%

Efficient gas RTUs, incorporate a combination of energy-saving features, including secondary condensing heat exchangers, high insulation values, improved cabinet design, low-leakage dampers, and heat or energy recovery. These easy-to-install systems are available now to replace existing RTUs and reliably deliver energy savings in Northern climates.

Efficient gas RTUs can take a variety of forms to boost overall efficiency in a variety of ways. One approach uses secondary condensing heat exchangers to capture a greater percent of the gas combustion energy. The secondary heat exchanger transfers additional energy from the flue gas into the supply air stream, resulting in lower flue temperatures and additional energy captured from the condensation of water vapor in the flue gas.

Other types of efficient gas RTUs provide comparable efficiency results without requiring a condensing system at all. These systems incorporate additional energy-saving measures including insulation and higher performance dampers to save considerable energy at small incremental costs. Additionally, heat and energy recovery equipment can provide up to 40% total HVAC energy savings when installed in an efficient gas RTU that introduces outside air.

COMMON APPLICATIONS FOR EFFICIENT GAS RTUs

- Small to medium commercial buildings, under 3 stories
- Retail, small office, grocery and schools
- Buildings with existing RTUs

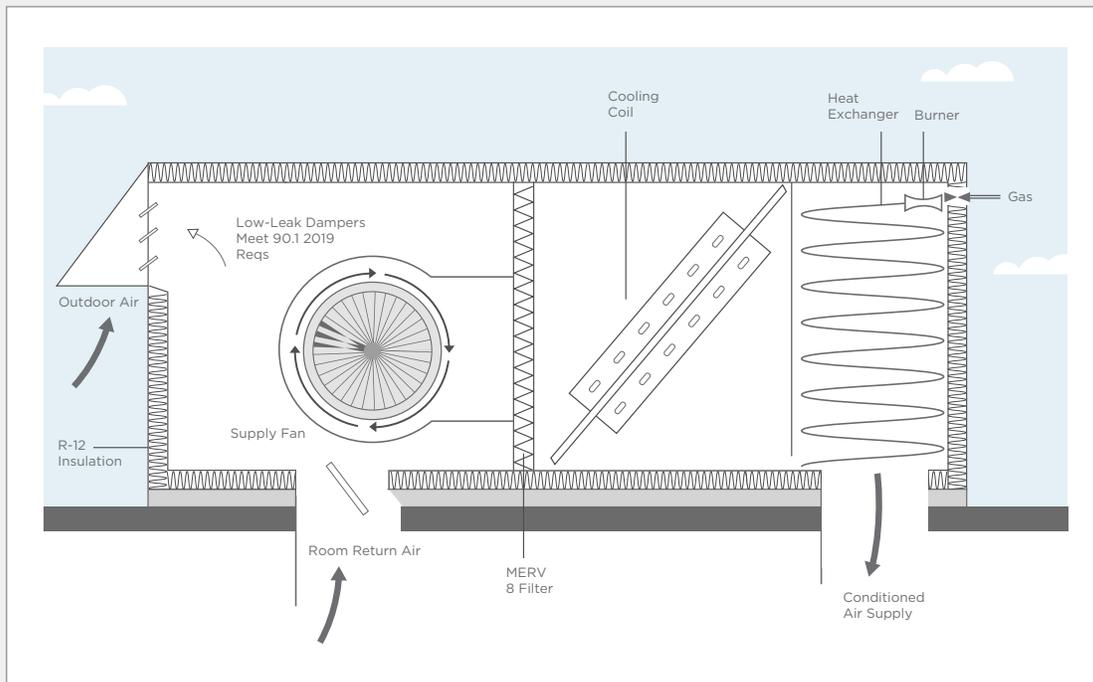


THE BETTER AND BEST EFFICIENT GAS RTUs

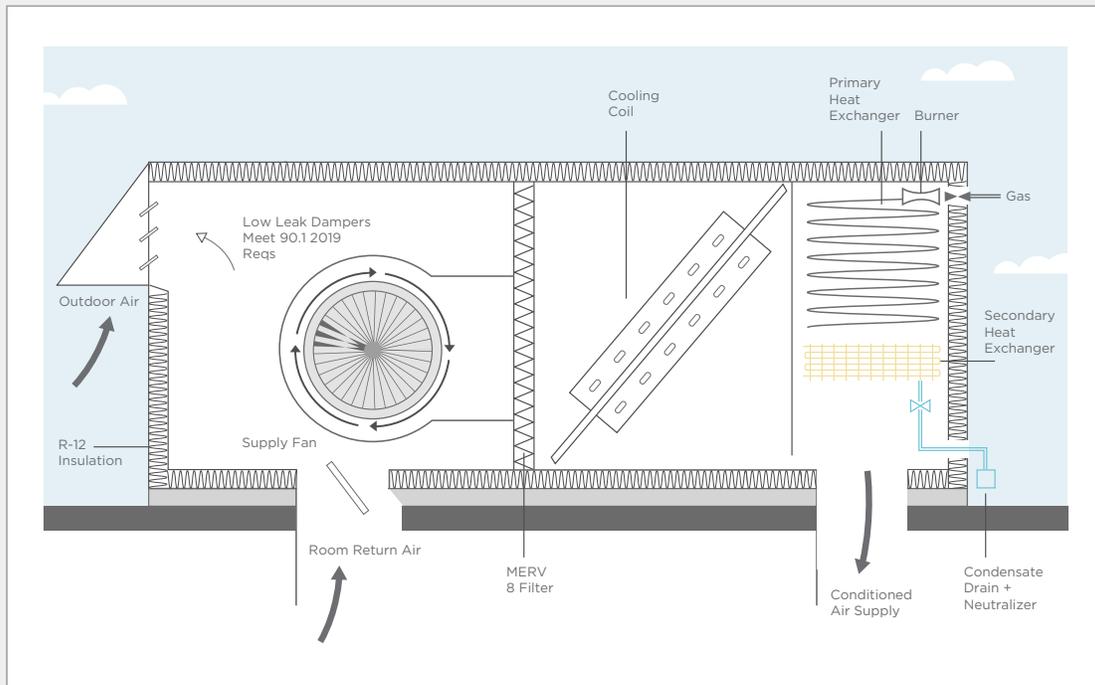
Based on field and lab testing completed by the Northwest Energy Efficiency Alliance (NEEA), efficient gas RTUs can be grouped into two categories, or tiers, based on their energy performance:

TIERS BASED ON PERFORMANCE	
Tier 1 units provide better efficiency than standard RTUs.	These units have at least 80% Thermal Efficiency (TE) and additional energy efficiency gains via increased insulation and reduced damper leakage making them up to 15% more efficient than a standard RTU (depending on climate zone and building type).
Tier 2 units are the highest performing RTUs available.	These units include everything in Tier 1, and either a) the furnace is a condensing gas furnace, or b) the unit includes heat or energy recovery with an energy recovery ventilator (ERV). These upgrades can result in units that are up to 40% more efficient than a standard RTU (depending on climate zone and building type). Tier 2 units are particularly ideal for buildings with higher occupancies and/or higher than average heating needs.

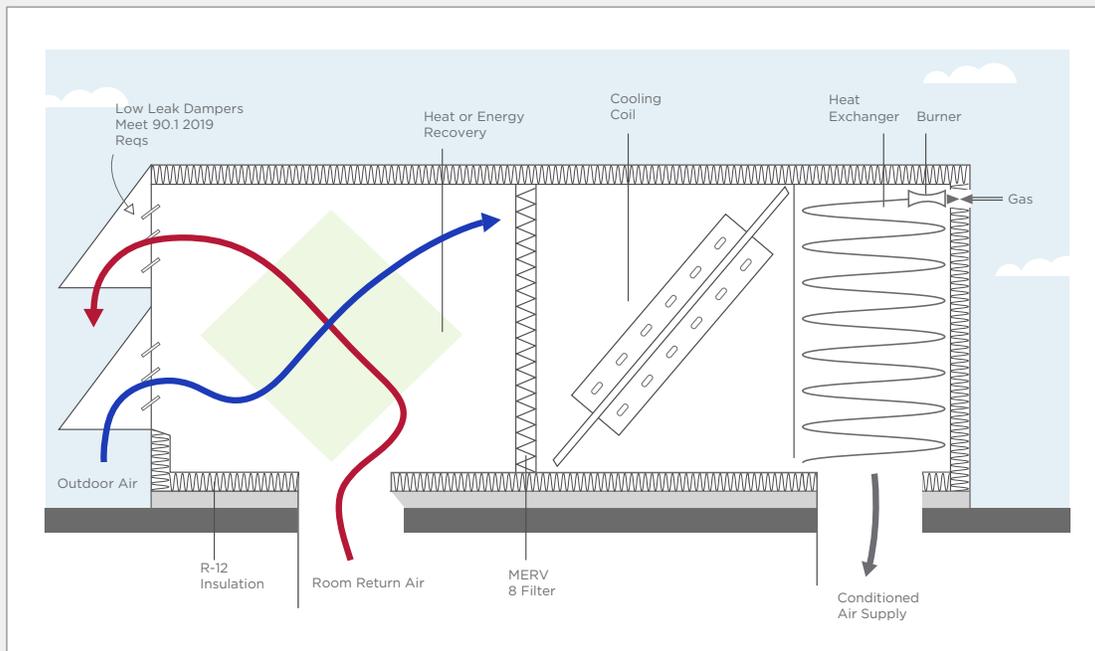
Tier 1



Tier 2: Condensing



Tier 2: Heat Recovery



Note: These drawings are for illustration purposes only and do not reflect the exact system design and component of every available model. Contact your manufacturer for exact system schematics.



To learn more about this and other efficient HVAC solutions, visit:
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