Cold-Climate VRF Heat Pumps

Kevin Frost, PE | Slipstream

November 17, 2022
Climate + Clean Energy Solutions for everyone. The knowledge, people, and resources to solve our biggest energy challenges.
Variable Refrigerant Flow (VRF) Systems
Variable Refrigerant Flow (VRF) Systems

• Efficient air-source heat pump system with variable speed compressor.

• Great for buildings with many zones or duct space limitations
VRF in cold climates
Interviews

• Good installs have few complaints and no heating issues.
• Installer training is critical to project success.
• Unfamiliarity among new customers.
Cold-Climate VRF – Heating Performance

Outdoor Temperature is 3°F to 15°F
Cold-Climate VRF – Heating Performance

Room Temp tracks Setpoint
Coefficient of Performance = \frac{\text{Units of Heat Delivered}}{\text{Unit of Electric Power}}