HVAC-R Unit Maintenance Standard Operating Procedures

HVAC-R (Heating, Ventilation, Air Conditioning, and Refrigeration) unit maintenance optimizes energy efficiency, prevents costly system breakdowns, and extends equipment lifespan. Routine servicing should be performed semi-annually (spring and fall for HVAC), while heavy-duty commercial refrigeration systems may require quarterly maintenance.

Key Maintenance Tasks

Professional and DIY preventative maintenance broadly breaks down into the following categories:

Category	Description & Maintenance Actions
Filter Replacements	Change standard air filters every 1 to 3 months to prevent restricted airflow and overheating.
Coil Cleaning	Wash indoor evaporator coils and outdoor condenser coils to ensure uninhibited heat transfer.
Condensate Drains	Clear debris, algae, and clogs from the drain lines and pans to prevent water damage and high humidity.
Electrical Diagnostics	Inspect wiring, tighten loose connections, and test run capacitors/contactors for signs of wear or pitting.
Refrigerant Checks	Measure system pressures, evaluate subcooling/superheat, and check for refrigerant leaks.

Category	Description & Maintenance Actions
Mechanical Adjustments	Lubricate moving parts (like fan motors), check for worn belts, and calibrate thermostats.

Servicing Best Practices & Schedules

- **Residential & Light Commercial:** Standard split systems need professional tune-ups once or twice a year.
- **Commercial HVAC & Refrigeration:** Commercial units typically require full servicing every 3 to 6 months.
- **Refrigeration Limits:** Specialized units like walk-in coolers require strict gasket inspections, defrost parameter checks, and specialized superheat monitoring.

To dive deeper into standard operating procedures and best practices for system asset management, you can refer to the EMSD Best Practices Booklet.