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Assessing Future Upgrade Paths for Mobile Home AC Brand Choices

Overview of HVAC needs specific to mobile homes

In the modern era of rapidly advancing technology and heightened awareness of energy efficiency, the importance of upgrading air conditioning (AC) systems in mobile homes cannot be overstated. Mobile homes, often characterized by their compact size and unique construction materials, pose specific challenges when it comes to maintaining a comfortable indoor climate. As we look toward assessing future upgrade paths for mobile home AC brand choices, several factors emerge as critical considerations.

First and foremost, energy efficiency is at the heart of any discussion about upgrading AC systems. Older air conditioning units tend to consume more electricity, leading to higher utility bills—a significant concern for many mobile homeowners who are often budget-conscious. By investing in a newer, more efficient AC system, homeowners can reduce their energy consumption, resulting in lower costs and a smaller environmental footprint. Many modern models come with Energy Star ratings that indicate superior performance standards set by regulatory bodies.

Mobile home HVAC systems should comply with local codes and regulations **mobile home hvac near me** ceiling.

Moreover, advanced AC systems offer improved performance in terms of cooling capacity and noise reduction—two crucial aspects for enhancing comfort within the confined spaces of a mobile home. These upgraded systems use innovative technologies such as variable-speed compressors and smart thermostats, which allow for precise temperature control and adaptability to changing weather conditions. This not only ensures consistent comfort but also extends the lifespan of the unit by reducing wear and tear.

Another important consideration is the compatibility of new AC systems with existing infrastructure within mobile homes. Given their distinct construction compared to traditional

houses, selecting an appropriately sized unit that fits seamlessly into available spaces without requiring extensive modifications is essential. Some brands have recognized this need and developed specialized products tailored to mobile homes' unique specifications.

Furthermore, as we evaluate future upgrade paths for AC systems in mobile homes, brand reputation plays a pivotal role in decision-making. Trustworthy brands known for quality craftsmanship and reliable customer support provide peace of mind that extends beyond the initial purchase. Homeowners benefit from warranties and service agreements that ensure prompt assistance should any issues arise.

Finally, it's worth noting that technological advancements continue to shape the landscape of home appliances. Smart home integration is becoming increasingly prevalent in HVAC solutions; therefore, choosing an AC system with connectivity features can enhance user experience significantly. Imagine controlling your home's climate remotely via smartphone apps or voice commands—these conveniences not only add value but also align with evolving consumer preferences.

In conclusion, upgrading AC systems in mobile homes represents an investment not just in immediate comfort but also long-term sustainability and cost-effectiveness. As we explore various brand choices available today—and anticipate those emerging tomorrow—we must prioritize energy efficiency, performance enhancements tailored specifically for mobile environments alongside smart technology integrations while considering reputable manufacturers committed to excellence across all facets of production/service delivery processes alike!

Importance of efficient heating and cooling solutions —

- Overview of HVAC needs specific to mobile homes
- Importance of efficient heating and cooling solutions
- Understanding Financing Options for Mobile Home HVAC
- Explanation of common financing packages available
- Key factors to consider when choosing a financing option
- Personal Loans for HVAC Systems
- Pros and cons of using personal loans for HVAC installation

When considering the key factors for choosing an air conditioning (AC) brand for mobile homes, particularly with an eye towards assessing future upgrade paths, it is crucial to delve into a blend of current performance expectations and potential for future enhancements. Mobile homes present unique challenges and opportunities when it comes to climate control, given their specific structural characteristics and space constraints. Thus, selecting an AC brand isn't merely about addressing immediate cooling needs but also involves planning for adaptability as technologies evolve.

Firstly, energy efficiency should be at the forefront of considerations. Modern AC units come with Energy Star ratings that indicate their efficiency levels. For mobile homeowners looking towards the future, selecting a brand known for continuous improvement in energy-saving technologies can lead to significant cost savings over time. Brands that invest in research and development of eco-friendly refrigerants or those incorporating smart technology features that optimize usage during peak times are worth considering.

Another critical factor is the compatibility and scalability of the system. As technology advances, new features such as smartphone integration or voice-controlled functionality might become standard. Choosing an AC brand known for modular designs or one that offers easy upgrade paths without requiring complete system replacements can provide peace of mind that your unit will remain up-to-date without exorbitant costs.

The durability and reliability of an AC unit are also essential factors to assess-particularly in mobile homes which may face different environmental conditions such as vibrations from transportation or exposure to varied climates. Opting for brands with strong warranties and robust customer support networks ensures any issues can be swiftly addressed, maintaining comfort regardless of external circumstances.

Moreover, consider the ease of installation and maintenance associated with different brands. Some brands offer systems designed specifically for mobile homes' unique layouts, making them easier to install while ensuring maximum efficiency. Regular maintenance is crucial to prolonging an AC unit's life; hence, selecting a brand known for readily available parts and widespread service professionals can simplify ongoing upkeep.

Lastly, reputation matters significantly when evaluating potential AC brands for future upgrades in mobile homes. Established brands often have a track record showcasing their commitment to innovation and quality improvements over time-a valuable asset if you're

planning long-term investments into your home's climate control systems.

In conclusion, while immediate cooling needs are certainly important when choosing an AC brand for a mobile home, it's equally vital to consider how these choices align with potential future upgrades. By focusing on energy efficiency, compatibility with emerging technologies, durability under unique conditions faced by mobile homes, ease of installation/maintenance procedures alongside reputable customer support services-you can make informed decisions today that pave the way for seamless advancements tomorrow.

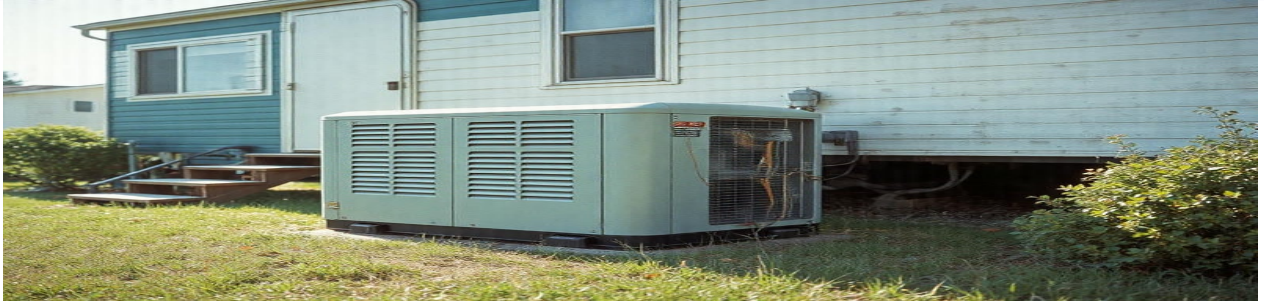
Affordable Payment Plans for Upgrading Mobile Home AC Systems



Choosing the right payment plan for upgrading your mobile home AC system is a crucial decision that can significantly impact your financial stability and comfort at home.. With numerous options available, it's essential to consider several factors to ensure you select a plan that aligns with your needs and budget. Firstly, assess your financial situation.

Posted by on 2024-12-30

Aligning Equipment Compatibility with Financing Options in Mobile Homes



In the dynamic world of mobile homes, aligning equipment compatibility with financing options is a crucial element that can significantly impact the success of any project.. The process involves ensuring that the equipment used in mobile home construction or renovation is not only technically suitable but also financially feasible.

Posted by on 2024-12-30

Understanding Financing Options for Mobile Home HVAC

In today's rapidly evolving world, mobile homes have gained significant popularity due to their affordability and flexibility. With this rise in interest, the demand for efficient, reliable air conditioning systems has also increased. As mobile home residents seek comfort during sweltering summers, understanding the landscape of popular mobile home AC brands becomes crucial, especially when considering future upgrade paths.

Among the many brands available, a few stand out for their innovation and customer satisfaction. One notable brand is Coleman, renowned for its durable and energy-efficient units. Coleman's air conditioners are designed with advanced technology that optimizes cooling performance while minimizing energy consumption-a perfect match for eco-conscious homeowners looking to reduce their carbon footprint.

Another prominent brand is Dometic, which offers a range of versatile products known for their quiet operation and compact design. Dometic's units are especially appealing to those living in smaller spaces or who value minimal noise disruption. This brand often incorporates smart technology features that allow users to control the system remotely via smartphone apps-an attractive feature for tech-savvy individuals looking for convenience at their fingertips.

Rheem is another key player in the mobile home AC market. With a strong reputation built on reliability and longevity, Rheem units are favored by those seeking robust solutions that require minimal maintenance over time. Their models often come with comprehensive warranties, providing peace of mind to homeowners who prioritize long-term investment protection.

As we assess future upgrade paths for mobile home AC choices, it is essential to consider emerging trends shaping the industry. The integration of smart home technologies continues to grow, making connectivity a critical factor in decision-making processes. Brands offering intuitive controls and compatibility with virtual assistants like Alexa or Google Assistant will likely lead the way in customer preference.

Moreover, environmental sustainability is increasingly influencing consumer choices. Brands investing in greener refrigerants or solar-powered options will attract environmentally conscious buyers aiming to minimize their ecological impact without sacrificing comfort.

Innovation doesn't just stop at technology; design also plays a role as aesthetic considerations become more important to consumers who view their mobile homes as extensions of personal style rather than mere functional dwellings. Sleeker designs that blend seamlessly into modern interiors could sway decisions toward certain brands over others.

In conclusion, as we navigate through various popular mobile home AC brands such as Coleman's efficiency-driven models or Dometic's smart-friendly offerings alongside Rheem's tried-and-true reliability-it becomes evident that future upgrade paths depend heavily on each homeowner's unique priorities: be it advanced features like remote control capabilities or sustainable practices ensuring Mother Earth stays cooler too! Understanding these dynamics helps guide informed choices tailored not only towards current needs but anticipating what lies ahead in this ever-changing landscape where comfort meets innovation seamlessly inside our beloved mobile sanctuaries!



Explanation of common financing packages available

In today's rapidly evolving world, the importance of energy efficiency and environmental sustainability cannot be overstated, especially when it comes to selecting appliances for our homes. This is particularly true for mobile home air conditioning units, where considerations around energy use and ecological impact are paramount. As consumers grow more conscious

of their carbon footprint and seek to reduce utility bills, evaluating the energy efficiency and environmental impact of different AC brands becomes a crucial step in assessing future upgrade paths.

Mobile homes present unique challenges in terms of heating and cooling due to their size, structure, and often limited insulation compared to traditional homes. Thus, choosing an air conditioning unit that not only meets the cooling demands but also adheres to modern standards of energy efficiency can make a significant difference. Fortunately, advancements in technology have led to the development of AC units with varied efficiencies measured by metrics such as SEER (Seasonal Energy Efficiency Ratio) ratings. A higher SEER rating typically indicates greater efficiency, translating into lower energy consumption and reduced electricity costs over time.

When evaluating different brands for potential upgrades, it's essential to examine both their immediate operational efficiencies and their long-term environmental impacts. Some brands might offer models with impressive efficiency levels but still rely on refrigerants that contribute significantly to global warming if released into the atmosphere. The shift towards using more environmentally friendly refrigerants like R-32 or propane-based options is becoming a critical factor in brand selection.

Moreover, beyond just individual product specifications, considering a brand's overall commitment to sustainability can provide insights into its future trajectory concerning eco-friendly practices. Brands investing in research for greener technologies or those committing to reducing emissions across their manufacturing processes often lead the way in innovation while setting industry benchmarks for others.

Another aspect worth considering is the ease of upgrading within a specific brand's ecosystem. Some manufacturers design their systems modularly or backward-compatible with older units, allowing users to upgrade efficiently without needing entirely new setups. This reduces waste and further aligns with sustainable practices by extending the lifecycle of existing components.

As we look towards future upgrade paths for mobile home AC choices, it's clear that striking a balance between immediate performance needs and long-term environmental commitments should guide decision-making processes. By prioritizing brands that demonstrate leadership in both arenas-energy efficiency through robust SEER ratings and minimal ecological footprints via sustainable manufacturing-consumers not only invest wisely but also contribute positively towards broader environmental goals.

Ultimately, making informed choices today regarding energy-efficient appliances lays down stepping stones toward a more sustainable tomorrow—a future where comfort does not come at an unsustainable cost to our planet's health or our financial well-being.

Key factors to consider when choosing a financing option

When contemplating the prospect of upgrading to newer air conditioning models for mobile homes, a thorough cost-benefit analysis becomes paramount. Such an assessment not only aids in understanding the financial implications but also unveils the potential benefits that come with embracing modern technology. This analysis is crucial, especially for mobile home owners who often operate under tighter budget constraints and space limitations.

The initial cost consideration is, undoubtedly, the most apparent obstacle when deliberating an upgrade. Newer AC models come with higher upfront costs compared to maintaining existing units. These expenses include purchase prices, installation fees, and potential modifications needed to accommodate new systems in older mobile homes. However, these costs must be weighed against long-term savings that arise from improved energy efficiency. Modern AC units are designed to consume less electricity while delivering optimal cooling performance, which translates into lower utility bills over time.

Moreover, advancements in technology have equipped newer models with smart features that offer enhanced convenience and control. Features such as programmable thermostats and remote operation through smartphone apps provide homeowners with unparalleled ease of use and customization options. These innovations not only contribute to energy savings but also enhance comfort levels by allowing precise temperature adjustments tailored to individual preferences.

Another critical aspect of this analysis is the environmental impact of upgrading AC systems. Newer models typically adhere to stricter environmental regulations, using refrigerants that are less harmful to the ozone layer and contributing less to global warming potential. For

environmentally conscious consumers, upgrading presents an opportunity to align personal values with lifestyle choices by reducing one's carbon footprint.

Maintenance costs also play a significant role in this equation. Older units often require frequent repairs due to wear and tear or obsolescence of parts. In contrast, newer models generally come with warranties and access to readily available replacement parts, reducing maintenance hassles and unexpected expenses.

From a resale perspective, investing in a modern AC system can increase the value of a mobile home. Prospective buyers are likely to view upgraded amenities as attractive selling points, thus potentially commanding a higher resale price or expediting the sale process.

However, it is essential for homeowners to assess their specific needs before making a decision. Factors such as climate conditions-whether they live in regions requiring extensive cooling throughout the year-and personal usage patterns should guide their choice of model features and capacities.

In conclusion, while upgrading to newer AC models involves significant initial investment outlays for mobile home owners, the long-term benefits often justify these costs. Energy efficiency improvements lead to reduced utility bills; cutting-edge features enhance user experience; adherence to environmental standards aligns with sustainable living principles; decreased maintenance demands lower future expenditures; and improved marketability boosts property value. A carefully conducted cost-benefit analysis enables informed decision-making tailored specifically for enhancing comfort within mobile homes while ensuring financial prudence and environmental responsibility remain at its core.

Personal Loans for HVAC Systems

As we look towards the future of mobile home HVAC technology, it becomes increasingly clear that the industry is on the brink of significant transformation. Mobile homes, often seen as a cost-effective and flexible housing option, are embracing new technological advancements in heating, ventilation, and air conditioning (HVAC) systems. These changes not only promise enhanced comfort and efficiency but also align with broader trends in sustainability and smart technology integration.

One of the most promising trends in mobile home HVAC technology is the development of more energy-efficient systems. As concerns about climate change intensify, manufacturers are under pressure to reduce the carbon footprint of their products. Future upgrade paths for mobile home AC brands will likely focus on integrating eco-friendly refrigerants and components designed to minimize energy consumption. For instance, variable speed compressors, which adjust cooling output based on immediate needs rather than running at full capacity at all times, could become standard in new models.

Another critical trend is the rise of smart HVAC systems. The Internet of Things (IoT) has revolutionized how we interact with our homes, and mobile homes are no exception. Smart thermostats that learn homeowners' habits and preferences can optimize energy use while maintaining comfort levels. In addition to traditional remote controls or wall-mounted units, smartphone apps provide users with unprecedented control over their environment from virtually anywhere. This means that future AC brand choices will not only consider performance but also compatibility with smart home ecosystems.

Market innovations are also driving changes in how consumers approach upgrading their mobile home HVAC systems. Subscription-based service models are emerging as a popular choice for homeowners looking for flexibility without upfront investment costs. Companies offering these services provide regular maintenance and upgrades as part of a monthly fee, ensuring that customers always have access to cutting-edge technology without needing to worry about large capital expenditures.

Furthermore, modular and customizable HVAC solutions offer another intriguing path forward for mobile homes. Given the diversity in design and layout across different mobile homes, there is increasing demand for systems that can be tailored to specific needs rather than relying on one-size-fits-all solutions. This customization extends beyond just hardware; software-driven solutions allow personalized climate control settings that reflect individual lifestyles.

In assessing future upgrade paths for mobile home AC brand choices, it's essential to consider consumer expectations around sustainability and convenience alongside technological advancements. Brands that prioritize innovation in energy efficiency, smart capabilities, flexible service models, and customization options will likely lead the market.

Ultimately, as we move deeper into this era of rapid technological advancement and heightened environmental awareness, those involved in manufacturing or choosing HVAC systems for mobile homes must remain attentive to these evolving trends. By doing so, they can ensure they are well-positioned within an increasingly competitive marketplace while providing homeowners with superior comfort and peace of mind both today and long into the future.

About Room air distribution

Room air distribution is characterizing how air is introduced to, flows through, and is removed from spaces.^[1] HVAC airflow in spaces generally can be classified by two different types: *mixing* (or dilution) and *displacement*.

Mixing systems

[edit]

Mixing systems generally supply air such that the **supply air** mixes with the **room air** so that the **mixed air** is at the room design temperature and humidity. In cooling mode, the cool supply air, typically around 55 °F (13 °C) (saturated) at design conditions, exits an outlet at high velocity. The high-velocity supply air stream causes turbulence causing the room air to mix with the supply air. Because the entire room is near-fully mixed, temperature variations are small while the contaminant concentration is fairly uniform throughout the entire room. Diffusers are normally used as the air outlets to create the high-velocity supply air stream. Most often, the air outlets and inlets are placed in the ceiling. Supply diffusers in the ceiling are fed by fan coil units in the ceiling void or by air handling units in a remote plant room. The fan coil or handling unit takes in **return** air from the ceiling void and mix this with fresh air and cool, or heat it, as required to achieve the room design conditions. This arrangement is known as 'conventional room air distribution'.^[2]

Outlet types

[edit]

- Group A1: In or near the ceiling that discharge air horizontally^[3]

- Group A2: Discharging horizontally that are not influenced by an adjacent surface^[3]
- Group B: In or near the floor that discharge air vertically in a linear jet^[3]
- Group C: In or near the floor that discharge air vertically in a spreading jet^[3]
- Group D: In or near the floor that discharge air horizontally^[3]
- Group E: Project supply air vertically downward^[3]

Displacement ventilation

[edit]

Main article: Displacement ventilation

Displacement ventilation systems supply air directly to the **occupied zone**. The air is supplied at low velocities to cause minimal induction and mixing. This system is used for ventilation and cooling of large high spaces, such as auditorium and atria, where energy may be saved if only the occupied zone is treated rather than trying to control the conditions in the entire space.

Displacement room airflow presents an opportunity to improve both the thermal comfort and indoor air quality (IAQ) of the occupied space. It also takes advantage of the difference in air density between an upper contaminated zone and a lower clean zone. Cool air is supplied at low velocity into the lower zone. Convection from heat sources creates vertical air motion into the upper zone where high-level return inlets extract the air. In most cases these convection heat sources are also the contamination sources (e.g., people, equipment, or processes), thereby carrying the contaminants up to the upper zone, away from the occupants.

The displacement outlets are usually located at or near the floor with the air supply designed so the air flows smoothly across the floor. Where there is a heat source (such as people, lighting, computers, electrical equipment, etc.) the air will rise, pulling the cool supply air up with it and moving contaminants and heat from the occupied zone to the return or exhaust grilles above. By doing so, the air quality in the occupied zone is generally superior to that achieved with mixing room air distribution.

Since the conditioned air is supplied directly into the occupied space, supply air temperatures must be higher than mixing systems (usually above 63 °F or 17 °C) to avoid cold draughts at the floor. By introducing the air at supply air temperatures close to the room temperature and low outlet velocity a high level of thermal comfort can be provided with displacement ventilation.

See also

[edit]

- Dilution (equation)
- Duct (HVAC)
- HVAC
- Lev door

- Underfloor air distribution
- Indoor air quality
- Thermal comfort
- Air conditioning
- ASHRAE
- SMACNA

References

[edit]

1. ^ Fundamentals volume of the *ASHRAE Handbook*, Atlanta, GA, USA, 2005
2. ^ *Designer's Guide to Ceiling-Based Room Air Diffusion*, Rock and Zhu, ASHRAE, Inc., Atlanta, GA, USA, 2002
3. ^ **a b c d e f** ASHRAE Handbook: Fundamentals, 2021

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Heating, ventilation, and air conditioning

Fundamental concepts

- Air changes per hour
- Bake-out
- Building envelope
- Convection
- Dilution
- Domestic energy consumption
- Enthalpy
- Fluid dynamics
- Gas compressor
- Heat pump and refrigeration cycle
- Heat transfer
- Humidity
- Infiltration
- Latent heat
- Noise control
- Outgassing
- Particulates
- Psychrometrics
- Sensible heat
- Stack effect
- Thermal comfort
- Thermal destratification
- Thermal mass
- Thermodynamics
- Vapour pressure of water

Technology

- Absorption-compression heat pump
- Absorption refrigerator
- Air barrier
- Air conditioning
- Antifreeze
- Automobile air conditioning
- Autonomous building
- Building insulation materials
- Central heating
- Central solar heating
- Chilled beam
- Chilled water
- Constant air volume (CAV)
- Coolant
- Cross ventilation
- Dedicated outdoor air system (DOAS)
- Deep water source cooling
- Demand controlled ventilation (DCV)
- Displacement ventilation
- District cooling
- District heating
- Electric heating
- Energy recovery ventilation (ERV)
- Firestop
- Forced-air
- Forced-air gas
- Free cooling
- Heat recovery ventilation (HRV)
- Hybrid heat
- Hydronics
- Ice storage air conditioning
- Kitchen ventilation
- Mixed-mode ventilation
- Microgeneration
- Passive cooling
- Passive daytime radiative cooling
- Passive house
- Passive ventilation
- Radiant heating and cooling
- Radiant cooling
- Radiant heating
- Radon mitigation
- Refrigeration
- Renewable heat
- Room air distribution
- Solar air heat
- Solar combisystem
- Solar cooling
- Solar heating
- Thermal insulation

- Air conditioner inverter
- Air door
- Air filter
- Air handler
- Air ionizer
- Air-mixing plenum
- Air purifier
- Air source heat pump
- Attic fan
- Automatic balancing valve
- Back boiler
- Barrier pipe
- Blast damper
- Boiler
- Centrifugal fan
- Ceramic heater
- Chiller
- Condensate pump
- Condenser
- Condensing boiler
- Convection heater
- Compressor
- Cooling tower
- Damper
- Dehumidifier
- Duct
- Economizer
- Electrostatic precipitator
- Evaporative cooler
- Evaporator
- Exhaust hood
- Expansion tank
- Fan
- Fan coil unit
- Fan filter unit
- Fan heater
- Fire damper
- Fireplace
- Fireplace insert
- Freeze stat
- Flue
- Freon
- Fume hood
- Furnace
- Gas compressor
- Gas heater
- Gasoline heater
- Grease duct
- Grille
- Ground-coupled heat exchanger

Components

**Measurement
and control**

- Air flow meter
- Aquastat
- BACnet
- Blower door
- Building automation
- Carbon dioxide sensor
- Clean air delivery rate (CADR)
- Control valve
- Gas detector
- Home energy monitor
- Humidistat
- HVAC control system
- Infrared thermometer
- Intelligent buildings
- LonWorks
- Minimum efficiency reporting value (MERV)
- Normal temperature and pressure (NTP)
- OpenTherm
- Programmable communicating thermostat
- Programmable thermostat
- Psychrometrics
- Room temperature
- Smart thermostat
- Standard temperature and pressure (STP)
- Thermographic camera
- Thermostat
- Thermostatic radiator valve
- Architectural acoustics
- Architectural engineering
- Architectural technologist
- Building services engineering
- Building information modeling (BIM)
- Deep energy retrofit

**Professions,
trades,
and services**

- Duct cleaning
- Duct leakage testing
- Environmental engineering
- Hydronic balancing
- Kitchen exhaust cleaning
- Mechanical engineering
- Mechanical, electrical, and plumbing
- Mold growth, assessment, and remediation
- Refrigerant reclamation
- Testing, adjusting, balancing

Industry organizations

- AHRI
- AMCA
- ASHRAE
- ASTM International
- BRE
- BSRIA
- CIBSE
- Institute of Refrigeration
- IIR
- LEED
- SMACNA
- UMC

Health and safety

- Indoor air quality (IAQ)
- Passive smoking
- Sick building syndrome (SBS)
- Volatile organic compound (VOC)
- ASHRAE Handbook
- Building science
- Fireproofing

See also

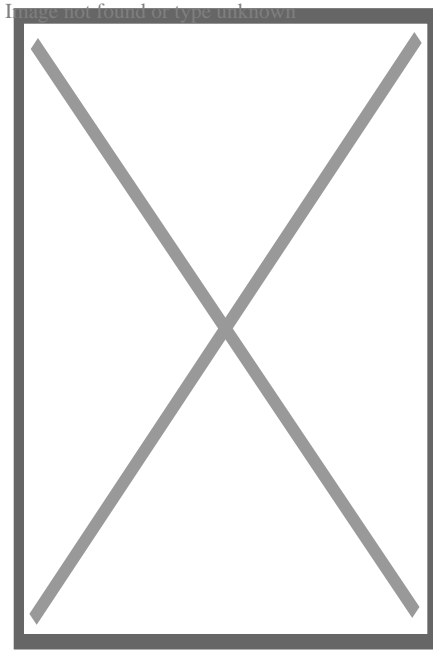
- Glossary of HVAC terms
- Warm Spaces
- World Refrigeration Day
- Template:Home automation
- Template:Solar energy

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About Refrigerant



This article's lead section **may be too short to adequately summarize the key points**. Please consider expanding the lead to provide an accessible overview of all important aspects of the article. *(March 2021)*



A DuPont R-134a refrigerant

A **refrigerant** is a working fluid used in cooling, heating or reverse cooling and heating of air conditioning systems and heat pumps where they undergo a repeated phase transition from a liquid to a gas and back again. Refrigerants are heavily regulated because of their toxicity and flammability^[1] and the contribution of CFC and HCFC refrigerants to ozone depletion^[2] and that of HFC refrigerants to climate change.^[3]

Refrigerants are used in a direct expansion (DX- Direct Expansion) system (circulating system) to transfer energy from one environment to another, typically from inside a building to outside (or vice versa) commonly known as an air conditioner cooling only or cooling & heating reverse DX system or heat pump a heating only DX cycle. Refrigerants can carry 10 times more energy per kg than water, and 50 times more than air.

Refrigerants are controlled substances and classified by International safety regulations ISO 817/5149, AHRAE 34/15 & BS EN 378 due to high pressures (700–1,000 kPa (100–150 psi)), extreme temperatures (?50 °C [?58 °F] to over 100 °C [212 °F]), flammability (A1 class non-flammable, A2/A2L class flammable and A3 class extremely flammable/explosive) and toxicity (B1-low, B2-medium & B3-high). The regulations relate to situations when these refrigerants are released into the atmosphere in the event of an accidental leak not while circulated.

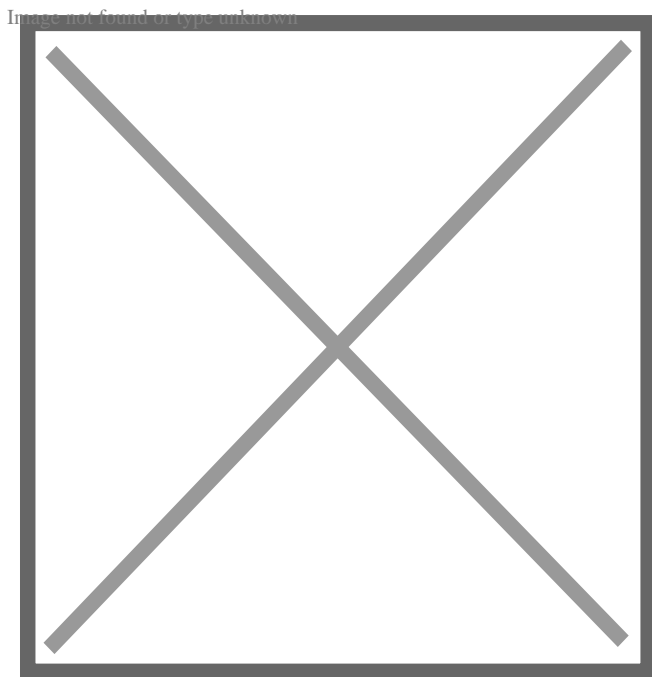
Refrigerants (controlled substances) must only be handled by qualified/certified engineers for the relevant classes (in the UK, C&G 2079 for A1-class and C&G 6187-2 for A2/A2L & A3-class refrigerants).

Refrigerants (A1 class only) Due to their non-flammability, A1 class non-flammability, non-explosivity, and non-toxicity, non-explosivity they have been used in open systems (consumed when used) like fire extinguishers, inhalers, computer rooms fire extinguishing

and insulation, etc.) since 1928.

History

[edit]



The observed stabilization of HCFC concentrations (left graphs) and the growth of HFCs (right graphs) in earth's atmosphere.

The first air conditioners and refrigerators employed toxic or flammable gases, such as ammonia, sulfur dioxide, methyl chloride, or propane, that could result in fatal accidents when they leaked.^[4]

In 1928 Thomas Midgley Jr. created the first non-flammable, non-toxic chlorofluorocarbon gas, *Freon* (R-12). The name is a trademark name owned by DuPont (now Chemours) for any chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC), or hydrofluorocarbon (HFC) refrigerant. Following the discovery of better synthesis methods, CFCs such as R-11,^[5] R-12,^[6] R-123^[5] and R-502^[7] dominated the market.

Phasing out of CFCs

[edit]

See also: Montreal Protocol

In the mid-1970s, scientists discovered that CFCs were causing major damage to the ozone layer that protects the earth from ultraviolet radiation, and to the ozone holes over polar regions.^{[8][9]} This led to the signing of the Montreal Protocol in 1987 which aimed to phase out CFCs and HCFC^[10] but did not address the contributions that HFCs made to climate change. The adoption of HCFCs such as R-22,^{[11][12][13]} and R-123^[5] was accelerated and so were used in most U.S. homes in air conditioners and in chillers^[14] from the 1980s as they have a dramatically lower Ozone Depletion Potential (ODP) than CFCs, but their ODP was still not zero which led to their eventual phase-out.

Hydrofluorocarbons (HFCs) such as R-134a,^{[15][16]} R-407A,^[17] R-407C,^[18] R-404A,^[7] R-410A^[19] (a 50/50 blend of R-125/R-32) and R-507^{[20][21]} were promoted as replacements for CFCs and HCFCs in the 1990s and 2000s. HFCs were not ozone-depleting but did have global warming potentials (GWPs) thousands of times greater than CO₂ with atmospheric lifetimes that can extend for decades. This in turn, starting from the 2010s, led to the adoption in new equipment of Hydrocarbon and HFO (hydrofluoroolefin) refrigerants R-32,^[22] R-290,^[23] R-600a,^[23] R-454B,^[24] R-1234yf,^{[25][26]} R-514A,^[27] R-744 (CO₂),^[28] R-1234ze(E)^[29] and R-1233zd(E),^[30] which have both an ODP of zero and a lower GWP. Hydrocarbons and CO₂ are sometimes called natural refrigerants because they can be found in nature.

The environmental organization Greenpeace provided funding to a former East German refrigerator company to research alternative ozone- and climate-safe refrigerants in 1992. The company developed a hydrocarbon mixture of propane and isobutane, or pure isobutane,^[31] called "Greenfreeze", but as a condition of the contract with Greenpeace could not patent the technology, which led to widespread adoption by other firms.^{[32][33][34]} Policy and political influence by corporate executives resisted change however,^{[35][36]} citing the flammability and explosive properties of the refrigerants,^[37] and DuPont together with other companies blocked them in the U.S. with the U.S. EPA.^{[38][39]}

Beginning on 14 November 1994, the U.S. Environmental Protection Agency restricted the sale, possession and use of refrigerants to only licensed technicians, per rules under sections 608 and 609 of the Clean Air Act.^[40] In 1995, Germany made CFC refrigerators illegal.^[41]

In 1996 Eurammon, a European non-profit initiative for natural refrigerants, was established and comprises European companies, institutions, and industry experts.^{[42][43][44]}

In 1997, FCs and HFCs were included in the Kyoto Protocol to the Framework Convention on Climate Change.

In 2000 in the UK, the Ozone Regulations^[45] came into force which banned the use of ozone-depleting HCFC refrigerants such as R22 in new systems. The Regulation banned the use of R22 as a "top-up" fluid for maintenance from 2010 for virgin fluid and from 2015 for recycled fluid.^[citation needed]

Addressing greenhouse gases

[edit]

With growing interest in natural refrigerants as alternatives to synthetic refrigerants such as CFCs, HCFCs and HFCs, in 2004, Greenpeace worked with multinational corporations like Coca-Cola and Unilever, and later Pepsico and others, to create a corporate coalition called Refrigerants Naturally!.^{[41][46]} Four years later, Ben & Jerry's of Unilever and General Electric began to take steps to support production and use in the U.S.^[47] It is estimated that almost 75 percent of the refrigeration and air conditioning sector has the potential to be converted to natural refrigerants.^[48]

In 2006, the EU adopted a Regulation on fluorinated greenhouse gases (FCs and HFCs) to encourage to transition to natural refrigerants (such as hydrocarbons). It was reported in 2010 that some refrigerants are being used as recreational drugs, leading to an extremely dangerous phenomenon known as inhalant abuse.^[49]

From 2011 the European Union started to phase out refrigerants with a global warming potential (GWP) of more than 150 in automotive air conditioning (GWP = 100-year warming potential of one kilogram of a gas relative to one kilogram of CO₂) such as the refrigerant HFC-134a (known as R-134a in North America) which has a GWP of 1526.^[50] In the same year the EPA decided in favour of the ozone- and climate-safe refrigerant for U.S. manufacture.^{[32][51][52]}

A 2018 study by the nonprofit organization "Drawdown" put proper refrigerant management and disposal at the very top of the list of climate impact solutions, with an impact equivalent to eliminating over 17 years of US carbon dioxide emissions.^[53]

In 2019 it was estimated that CFCs, HCFCs, and HFCs were responsible for about 10% of direct radiative forcing from all long-lived anthropogenic greenhouse gases.^[54] and in the same year the UNEP published new voluntary guidelines,^[55] however many countries have not yet ratified the Kigali Amendment.

From early 2020 HFCs (including R-404A, R-134a and R-410A) are being superseded: Residential air-conditioning systems and heat pumps are increasingly using R-32. This still has a GWP of more than 600. Progressive devices use refrigerants with almost no climate impact, namely R-290 (propane), R-600a (isobutane) or R-1234yf (less flammable, in cars). In commercial refrigeration also CO₂ (R-744) can be used.

Requirements and desirable properties

[edit]

A refrigerant needs to have: a boiling point that is somewhat below the target temperature (although boiling point can be adjusted by adjusting the pressure appropriately), a high heat of vaporization, a moderate density in liquid form, a relatively high density in gaseous form (which can also be adjusted by setting pressure appropriately), and a high critical temperature. Working pressures should ideally be containable by copper tubing, a commonly available material. Extremely high pressures should be avoided.^[citation needed]

The ideal refrigerant would be: non-corrosive, non-toxic, non-flammable, with no ozone depletion and global warming potential. It should preferably be natural with well-studied and low environmental impact. Newer refrigerants address the issue of the damage that CFCs caused to the ozone layer and the contribution that HCFCs make to climate change, but some do raise issues relating to toxicity and/or flammability.^[56]

Common refrigerants

[edit]

Refrigerants with very low climate impact

[edit]

With increasing regulations, refrigerants with a very low global warming potential are expected to play a dominant role in the 21st century,^[57] in particular, R-290 and R-1234yf. Starting from almost no market share in 2018,^[58] low GWPO devices are gaining market share in 2022.

Code	Chemical	Name	GWP		Status	Commentary
			20yr ^[59]	100yr ^[59]		

R-290	C_3H_8	Propane		3.3[60]	Increasing use	Low cost, widely available and efficient. They also have zero ozone depletion potential. Despite their flammability, they are increasingly used in domestic refrigerators and heat pumps. In 2010, about one-third of all household refrigerators and freezers manufactured globally used isobutane or an isobutane/propane blend, and this was expected to increase to 75% by 2020.[61]
R-600a	$HC(CH_3)_3$	Isobutane		3.3	Widely used	See R-290. Commonly used before the popularisation of CFCs, it is again being considered but does suffer from the disadvantage of toxicity, and it requires corrosion-resistant components, which restricts its domestic and small-scale use.
R-717	NH_3	Ammonia	0	0[62]	Widely used	Anhydrous ammonia is widely used in industrial refrigeration applications and hockey rinks because of its high energy efficiency and low cost.
R-1234yf HFO-1234yf	$C_3H_2F_4$	2,3,3,3-Tetrafluoropropene		<1		Less performance but also less flammable than R-290. [57] GM announced that it would start using "hydro-fluoro olefin", HFO-1234yf, in all of its brands by 2013.[63]

R-744	CO ₂	Carbon dioxide	1	1	In use
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Was used as a refrigerant prior to the discovery of CFCs (this was also the case for propane)^[4] and now having a renaissance due to it being non-ozone depleting, non-toxic and non-flammable. It may become the working fluid of choice to replace current HFCs in cars, supermarkets, and heat pumps. Coca-Cola has fielded CO₂-based beverage coolers and the U.S. Army is considering CO₂ refrigeration.^{[64][65]} Due to the need to operate at pressures of up to 130 bars (1,900 psi; 13,000 kPa), CO₂ systems require highly resistant components, however these have already been developed for mass production in many sectors.

Most used

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	GWP 100yr ^[59]	Status	Commentary
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R-32 HFC-32	CH ₂ F ₂	Difluoromethane	2430	677	Widely used	Promoted as climate-friendly substitute for R-134a and R-410A, but still with high climate impact. Has excellent heat transfer and pressure drop performance, both in condensation and vaporisation. ^[66] It has an atmospheric lifetime of nearly 5 years. ^[67] Currently used in residential and commercial air-conditioners and heat pumps.
R-134a HFC-134a	CH ₂ FCF ₃	1,1,1,2-Tetrafluoroethane	3790	1550	Widely used	Most used in 2020 for hydronic heat pumps in Europe and the United States in spite of high GWP. ^[58] Commonly used in automotive air conditioners prior to phase out which began in 2012.
R-410A		50% R-32 / 50% R-125 (pentafluoroethane)	Between 2430 (R-32) and 6350 (R-125)	> 677	Widely Used	Most used in split heat pumps / AC by 2018. Almost 100% share in the USA. ^[58] Being phased out in the US starting in 2022. ^{[68][69]}

Banned / Phased out

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	Global warming potential 100yr ^[59]	Status	Commentary
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R-11 CFC-11	CCl_3F	Trichlorofluoromethane	6900	4660	Banned	<p>Production was banned in developed countries by Montreal Protocol in 1996</p> <p>Also known as Freon, a widely used chlorofluorocarbon halomethane (CFC).</p>
R-12 CFC-12	CCl_2F_2	Dichlorodifluoromethane	10800	10200	Banned	<p>Production was banned in developed countries by Montreal Protocol in 1996, and in developing countries (article 5 countries) in 2010.^[70]</p> <p>A widely used hydrochlorofluorocarbon (HCFC) and powerful greenhouse gas with a GWP equal to 1810.</p>
R-22 HCFC-22	CHClF_2	Chlorodifluoromethane	5280	1760	Being phased out	<p>Worldwide production of R-22 in 2008 was about 800 Gg per year, up from about 450 Gg per year in 1998. R-438A (MO-99) is a R-22 replacement.^[71]</p> <p>Used in large tonnage centrifugal chiller applications. All U.S. production and import of virgin HCFCs will be phased out by 2030, with limited exceptions.^[72]</p>
R-123 HCFC-123	CHCl_2CF_3	2,2-Dichloro-1,1,1-trifluoroethane	292	79	US phase-out	<p>^[72] R-123 refrigerant was used to retrofit some chiller that used R-11 refrigerant Trichlorofluoromethane. The production of R-11 was banned in developed countries by Montreal Protocol in 1996.^[73]</p>

Other

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	GWP 100yr ^[59]	Commentary
R-152a HFC-152a	CH ₃ CHF ₂	1,1-Difluoroethane	506	138	As a compressed air duster
R-407C		Mixture of difluoromethane and pentafluoroethane and 1,1,1,2-tetrafluoroethane			A mixture of R-32, R-125, and R-134a
R-454B		Difluoromethane and 2,3,3,3-Tetrafluoropropene			HFOs blend of refrigerants Difluoromethane (R-32) and 2,3,3,3-Tetrafluoropropene (R-1234yf). ^{[74][75][76][77]}
R-513A		An HFO/HFC blend (56% R-1234yf/44%R-134a)			May replace R-134a as an interim alternative ^[78]
R-514A		HFO-1336mzz-Z/trans-1,2-dichloroethylene (t-DCE)			An hydrofluoroolefin (HFO)-based refrigerant to replace R-123 in low pressure centrifugal chillers for commercial and industrial applications. ^{[79][80]}

Refrigerant reclamation and disposal

[edit]

Main article: Refrigerant reclamation

Coolant and refrigerants are found throughout the industrialized world, in homes, offices, and factories, in devices such as refrigerators, air conditioners, central air conditioning systems (HVAC), freezers, and dehumidifiers. When these units are serviced, there is a risk that refrigerant gas will be vented into the atmosphere either accidentally or intentionally, hence the creation of technician training and certification programs in order to ensure that the material is conserved and managed safely. Mistreatment of these gases

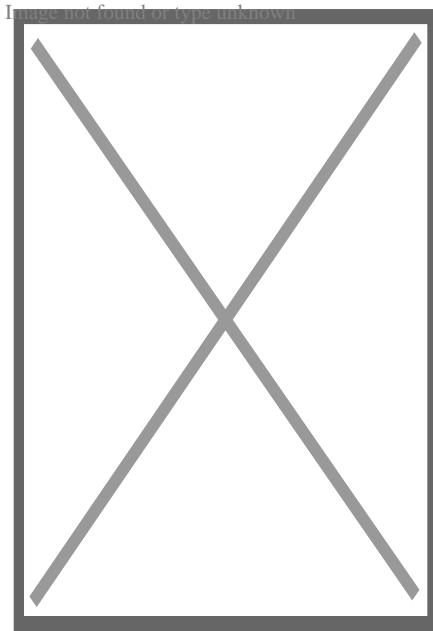
has been shown to deplete the ozone layer and is suspected to contribute to global warming.^[81]

With the exception of isobutane and propane (R600a, R441A and R290), ammonia and CO₂ under Section 608 of the United States' Clean Air Act it is illegal to knowingly release any refrigerants into the atmosphere.^{[82][83]}

Refrigerant reclamation is the act of processing used refrigerant gas which has previously been used in some type of refrigeration loop such that it meets specifications for new refrigerant gas. In the United States, the Clean Air Act of 1990 requires that used refrigerant be processed by a certified reclaimer, which must be licensed by the United States Environmental Protection Agency (EPA), and the material must be recovered and delivered to the reclaimer by EPA-certified technicians.^[84]

Classification of refrigerants

[edit]



R407C pressure-enthalpy diagram, isotherms between the two saturation lines

Main article: List of refrigerants

Refrigerants may be divided into three classes according to their manner of absorption or extraction of heat from the substances to be refrigerated:^[citation needed]

- Class 1: This class includes refrigerants that cool by phase change (typically boiling), using the refrigerant's latent heat.
- Class 2: These refrigerants cool by temperature change or 'sensible heat', the quantity of heat being the specific heat capacity x the temperature change. They are air, calcium chloride brine, sodium chloride brine, alcohol, and similar nonfreezing

solutions. The purpose of Class 2 refrigerants is to receive a reduction of temperature from Class 1 refrigerants and convey this lower temperature to the area to be cooled.

- Class 3: This group consists of solutions that contain absorbed vapors of liquefiable agents or refrigerating media. These solutions function by nature of their ability to carry liquefiable vapors, which produce a cooling effect by the absorption of their heat of solution. They can also be classified into many categories.

R numbering system

[edit]

The R- numbering system was developed by DuPont (which owned the Freon trademark), and systematically identifies the molecular structure of refrigerants made with a single halogenated hydrocarbon. ASHRAE has since set guidelines for the numbering system as follows:[⁸⁵]

R- $X_1X_2X_3X_4$

- X_1 = Number of unsaturated carbon-carbon bonds (omit if zero)
- X_2 = Number of carbon atoms minus 1 (omit if zero)
- X_3 = Number of hydrogen atoms plus 1
- X_4 = Number of fluorine atoms

Series

[edit]

- **R-xx** Methane Series
- **R-1xx** Ethane Series
- **R-2xx** Propane Series
- **R-4xx** Zeotropic blend
- **R-5xx** Azeotropic blend
- **R-6xx** Saturated hydrocarbons (except for propane which is R-290)
- **R-7xx** Inorganic Compounds with a molar mass < 100
- **R-7xxx** Inorganic Compounds with a molar mass ? 100

Ethane Derived Chains

[edit]

- **Number Only** Most symmetrical isomer
- **Lower Case Suffix (a, b, c, etc.)** indicates increasingly unsymmetrical isomers

Propane Derived Chains

[edit]

- **Number Only** If only one isomer exists; otherwise:
- **First lower case suffix (a-f):**
 - **a Suffix** Cl_2 central carbon substitution
 - **b Suffix** Cl , F central carbon substitution
 - **c Suffix** F_2 central carbon substitution
 - **d Suffix** Cl , H central carbon substitution
 - **e Suffix** F , H central carbon substitution
 - **f Suffix** H_2 central carbon substitution
- **2nd Lower Case Suffix (a, b, c, etc.)** Indicates increasingly unsymmetrical isomers

Propene derivatives

[edit]

- **First lower case suffix (x, y, z):**
 - **x Suffix** Cl substitution on central atom
 - **y Suffix** F substitution on central atom
 - **z Suffix** H substitution on central atom
- **Second lower case suffix (a-f):**
 - **a Suffix** $=\text{CCl}_2$ methylene substitution
 - **b Suffix** $=\text{CClF}$ methylene substitution
 - **c Suffix** $=\text{CF}_2$ methylene substitution
 - **d Suffix** $=\text{CHCl}$ methylene substitution
 - **e Suffix** $=\text{CHF}$ methylene substitution
 - **f Suffix** $=\text{CH}_2$ methylene substitution

Blends

[edit]

- **Upper Case Suffix (A, B, C, etc.)** Same blend with different compositions of refrigerants

Miscellaneous

[edit]

- **R-Cxxx** Cyclic compound
- **R-Exxx** Ether group is present
- **R-CExxx** Cyclic compound with an ether group
- **R-4xx/5xx + Upper Case Suffix (A, B, C, etc.)** Same blend with different composition of refrigerants

- **R-6xx + Lower Case Letter** Indicates increasingly unsymmetrical isomers
- **7xx/7xxx + Upper Case Letter** Same molar mass, different compound
- **R-xxxxB#** Bromine is present with the number after B indicating how many bromine atoms
- **R-xxxxI#** Iodine is present with the number after I indicating how many iodine atoms
- **R-xxx(E)** Trans Molecule
- **R-xxx(Z)** Cis Molecule

For example, R-134a has 2 carbon atoms, 2 hydrogen atoms, and 4 fluorine atoms, an empirical formula of tetrafluoroethane. The "a" suffix indicates that the isomer is unbalanced by one atom, giving 1,1,1,2-Tetrafluoroethane. R-134 (without the "a" suffix) would have a molecular structure of 1,1,2,2-Tetrafluoroethane.

The same numbers are used with an R- prefix for generic refrigerants, with a "Propellant" prefix (e.g., "Propellant 12") for the same chemical used as a propellant for an aerosol spray, and with trade names for the compounds, such as "**Freon** 12". Recently, a practice of using abbreviations HFC- for hydrofluorocarbons, CFC- for chlorofluorocarbons, and HCFC- for hydrochlorofluorocarbons has arisen, because of the regulatory differences among these groups.^[*citation needed*]

Refrigerant safety

[edit]

ASHRAE Standard 34, *Designation and Safety Classification of Refrigerants*, assigns safety classifications to refrigerants based upon toxicity and flammability.

Using safety information provided by producers, ASHRAE assigns a capital letter to indicate toxicity and a number to indicate flammability. The letter "A" is the least toxic and the number 1 is the least flammable.^[⁸⁶]

See also

[edit]

- Brine (Refrigerant)
- Section 608
- List of Refrigerants

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[edit]

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External links

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- Green Cooling Initiative on alternative natural refrigerants cooling technologies
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Heating, ventilation, and air conditioning

Fundamental concepts

- Air changes per hour
- Bake-out
- Building envelope
- Convection
- Dilution
- Domestic energy consumption
- Enthalpy
- Fluid dynamics
- Gas compressor
- Heat pump and refrigeration cycle
- Heat transfer
- Humidity
- Infiltration
- Latent heat
- Noise control
- Outgassing
- Particulates
- Psychrometrics
- Sensible heat
- Stack effect
- Thermal comfort
- Thermal destratification
- Thermal mass
- Thermodynamics
- Vapour pressure of water

Technology

- Absorption-compression heat pump
- Absorption refrigerator
- Air barrier
- Air conditioning
- Antifreeze
- Automobile air conditioning
- Autonomous building
- Building insulation materials
- Central heating
- Central solar heating
- Chilled beam
- Chilled water
- Constant air volume (CAV)
- Coolant
- Cross ventilation
- Dedicated outdoor air system (DOAS)
- Deep water source cooling
- Demand controlled ventilation (DCV)
- Displacement ventilation
- District cooling
- District heating
- Electric heating
- Energy recovery ventilation (ERV)
- Firestop
- Forced-air
- Forced-air gas
- Free cooling
- Heat recovery ventilation (HRV)
- Hybrid heat
- Hydronics
- Ice storage air conditioning
- Kitchen ventilation
- Mixed-mode ventilation
- Microgeneration
- Passive cooling
- Passive daytime radiative cooling
- Passive house
- Passive ventilation
- Radiant heating and cooling
- Radiant cooling
- Radiant heating
- Radon mitigation
- Refrigeration
- Renewable heat
- Room air distribution
- Solar air heat
- Solar combisystem
- Solar cooling
- Solar heating
- Thermal insulation

- Air conditioner inverter
- Air door
- Air filter
- Air handler
- Air ionizer
- Air-mixing plenum
- Air purifier
- Air source heat pump
- Attic fan
- Automatic balancing valve
- Back boiler
- Barrier pipe
- Blast damper
- Boiler
- Centrifugal fan
- Ceramic heater
- Chiller
- Condensate pump
- Condenser
- Condensing boiler
- Convection heater
- Compressor
- Cooling tower
- Damper
- Dehumidifier
- Duct
- Economizer
- Electrostatic precipitator
- Evaporative cooler
- Evaporator
- Exhaust hood
- Expansion tank
- Fan
- Fan coil unit
- Fan filter unit
- Fan heater
- Fire damper
- Fireplace
- Fireplace insert
- Freeze stat
- Flue
- Freon
- Fume hood
- Furnace
- Gas compressor
- Gas heater
- Gasoline heater
- Grease duct
- Grille
- Ground-coupled heat exchanger

Components

**Measurement
and control**

- Air flow meter
- Aquastat
- BACnet
- Blower door
- Building automation
- Carbon dioxide sensor
- Clean air delivery rate (CADR)
- Control valve
- Gas detector
- Home energy monitor
- Humidistat
- HVAC control system
- Infrared thermometer
- Intelligent buildings
- LonWorks
- Minimum efficiency reporting value (MERV)
- Normal temperature and pressure (NTP)
- OpenTherm
- Programmable communicating thermostat
- Programmable thermostat
- Psychrometrics
- Room temperature
- Smart thermostat
- Standard temperature and pressure (STP)
- Thermographic camera
- Thermostat
- Thermostatic radiator valve
- Architectural acoustics
- Architectural engineering
- Architectural technologist
- Building services engineering
- Building information modeling (BIM)
- Deep energy retrofit

**Professions,
trades,
and services**

- Duct cleaning
- Duct leakage testing
- Environmental engineering
- Hydronic balancing
- Kitchen exhaust cleaning
- Mechanical engineering
- Mechanical, electrical, and plumbing
- Mold growth, assessment, and remediation
- Refrigerant reclamation
- Testing, adjusting, balancing

Industry organizations

- AHRI
- AMCA
- ASHRAE
- ASTM International
- BRE
- BSRIA
- CIBSE
- Institute of Refrigeration
- IIR
- LEED
- SMACNA
- UMC
- Indoor air quality (IAQ)
- Passive smoking
- Sick building syndrome (SBS)
- Volatile organic compound (VOC)
- ASHRAE Handbook
- Building science
- Fireproofing
- Glossary of HVAC terms
- Warm Spaces
- World Refrigeration Day
- Template:Home automation
- Template:Solar energy

Health and safety

See also

Authority control databases: National

- United States
- France
- Japan
- Israel

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Things To Do in Tulsa County

Photo

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Tulsa Zoo

4.5 (10481)

Photo

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The Outsiders House Museum

4.7 (885)

Photo

The Cave House

4.6 (249)

Photo

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Tours of Tulsa

4.9 (291)

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Blue Whale of Catoosa

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Photo

The Tulsa Arts District

4.7 (22)

Driving Directions in Tulsa County

Driving Directions From Tulsa VA Behavioral Medicine Clinic to Durham Supply Inc

Driving Directions From Harmon Security Group LLC. to Durham Supply Inc

Driving Directions From Reception Jehovah's Witnesses to Durham Supply Inc

Driving Directions From Best Western Airport to Durham Supply Inc

Driving Directions From Oakwood Homes to Durham Supply Inc

Furnace store

Heating contractor

HVAC contractor

Mobile Home Furnace Installation

Mobile Home Air Conditioning Installation Services

Mobile Home Hvac Repair

Driving Directions From Tours of Tulsa to Durham Supply Inc

Driving Directions From The Tulsa Arts District to Durham Supply Inc

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Mobile home supply store

Air conditioning repair service

Air conditioning store

Air conditioning system supplier

Reviews for Durham Supply Inc

Durham Supply Inc

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Ty Spears

(5)

Bought a door/storm door combo. Turns out it was the wrong size. They swapped it out, quick and easy no problems. Very helpful in explaining the size differences from standard door sizes.

Durham Supply Inc

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Ethel Schiller

(5)

This place is really neat, if they don't have it they can order it from another of their stores and have it there overnight in most cases. Even hard to find items for a trailer! I definitely recommend this place to everyone! O and the prices is awesome too!

Durham Supply Inc

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B Mann

(5)

I was in need of some items for a double wide that I am remodeling and this place is the only place in town that had what I needed (I didn't even try the other rude place)while I was there I learned the other place that was in Tulsa that also sold mobile home supplies went out of business (no wonder the last time I was in there they were VERY RUDE and high priced) I like the way Dunham does business they answered all my questions and got me the supplies I needed, very friendly, I will be back to purchase the rest of my items when the time comes.

Durham Supply Inc

Image not found or type unknown

Dennis Champion

(5)

Durham supply and Royal supply seems to find the most helpful and friendly people to work in their stores, we are based out of Kansas City out here for a few remodels and these guys treated us like we've gone there for years.

Durham Supply Inc

Image not found or type unknown

Gerald Clifford Brewster

(5)

We will see, the storm door I bought says on the tag it's 36x80, but it's 34x80. If they return it.....they had no problems returning it. And it was no fault of there's, you measure a mobile home door different than a standard door!

Assessing Future Upgrade Paths for Mobile Home AC Brand Choices [View GBP](#)

Check our other pages :

- **Comparing Equipment Sizes to Mobile Home Square Footage**
- **Assessing Future Upgrade Paths for Mobile Home AC Brand Choices**
- **Reviewing Interest Options for Mobile Home AC Installations**
- **Scheduling Payments for Large Scale Mobile Home HVAC Replacements**

Frequently Asked Questions

What are the key factors to consider when choosing an AC brand for a mobile home HVAC system?

The key factors include energy efficiency (SEER rating), compatibility with existing ductwork, ease of installation, size and cooling capacity suitable for the mobile home, reliability and durability of the brand, cost of purchase and maintenance, availability of customer support and warranty options.

How do I determine if a future upgrade to a specific AC brand will be compatible with my current mobile home setup?

To ensure compatibility, check your current system's specifications including duct size and layout, electrical requirements, and space constraints. Consult with an HVAC professional or review manufacturer guidelines for the prospective AC unit to confirm it can integrate smoothly with your existing infrastructure.

What are some reputable AC brands known for providing reliable upgrades in mobile homes?

Some reputable AC brands that are often recommended for mobile homes due to their reliability and efficiency include Trane, Carrier, Lennox, Goodman, and Rheem. These brands offer various models designed specifically for smaller spaces like those found in mobile homes.

Royal Supply Inc

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Google Business Profile

Company Website : <https://royal-durhamsupply.com/locations/oklahoma-city-oklahoma/>

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