

UNITED STATES HVAC EQUIPMENT MARKET



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RESEARCH SCOPE

The study captures the overall HVAC equipment market and also provides an overview of the various Heating, Ventilation and Air Conditioning equipment. The report covers the below mentioned segments:

- ❑ Heating - Heat Pumps, Furnace, Boilers & others
- ❑ Cooling- Window Air Conditioners, Portable Air Conditioners, Ducted Splits, Ductless Splits, Rooftop Unit, Packaged Terminal Air Conditioner (PTAC), Variable Refrigerant Flow (VRF), Chillers, Air Handling Unit (AHU), Fan Coil Unit (FCU) & Cooling Towers
- ❑ Ventilation- Industrial/Commercial blowers and fans & humidifiers/dehumidifiers
- ❑ End-user segment included residential, commercial and industrial.

The study does not cover fleet or automotive HVAC, refrigeration equipment, HVAC controls, HVAC components, water heaters, air purifiers, or energy consumption by the HVAC units.

The report provides an overview of the HVAC Equipment Market in United States. This report captures the following information:

- ❑ Market Size, Growth Rate, Forecasts: 2011-2020
- ❑ Growth Drivers & Restraints
- ❑ Market Analysis: Heating, Ventilation & Air Conditioning Market
- ❑ Supplier Landscape
- ❑ Market Trends

CATEGORY OVERVIEW: HVAC EQUIPMENT

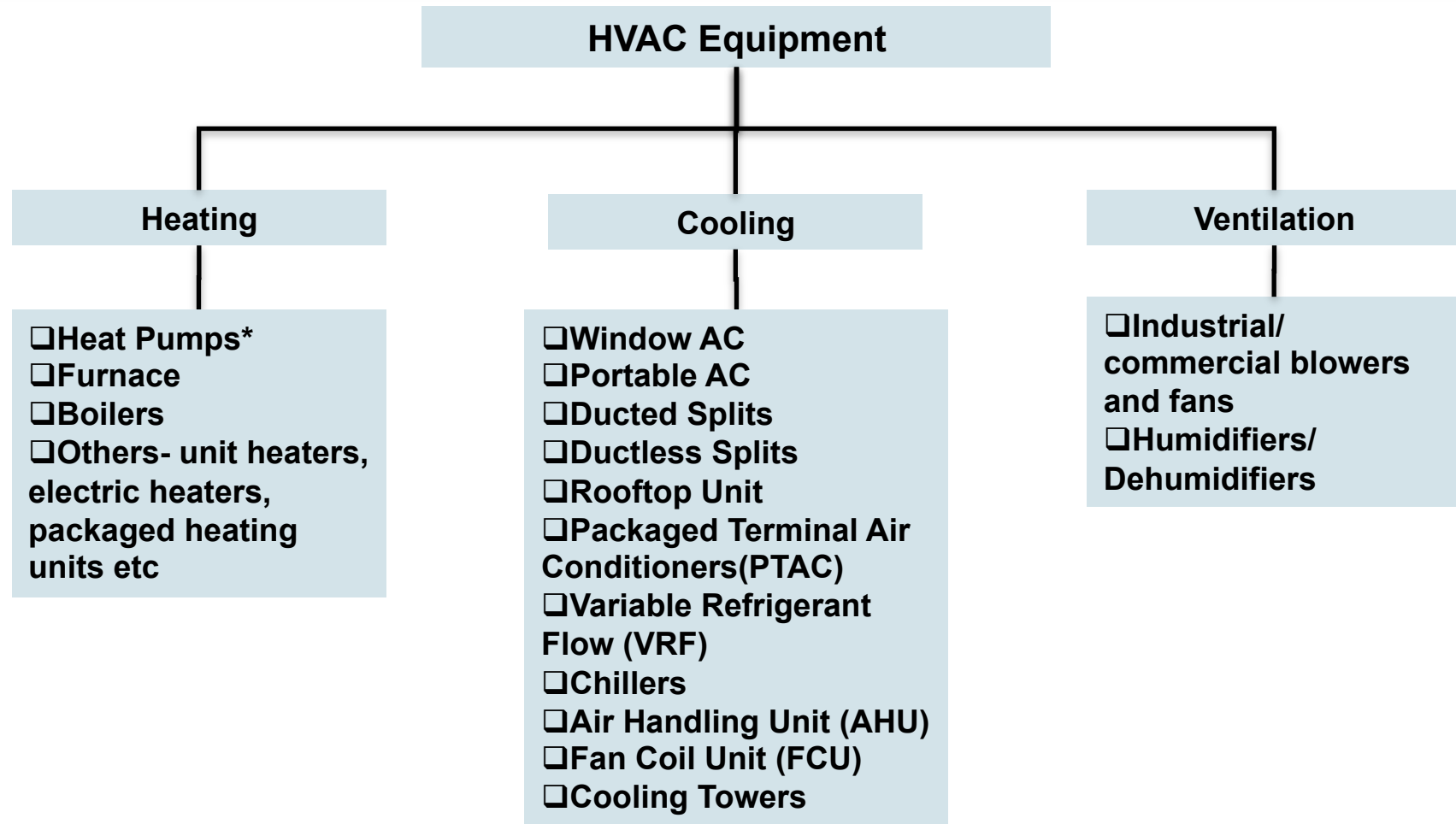


Figure : 1.1

*Please note: heat-pumps that provide heating as well as cooling have been categorized in heating equipment for this study.

HVAC EQUIPMENT MARKET: STUDY FOCUS

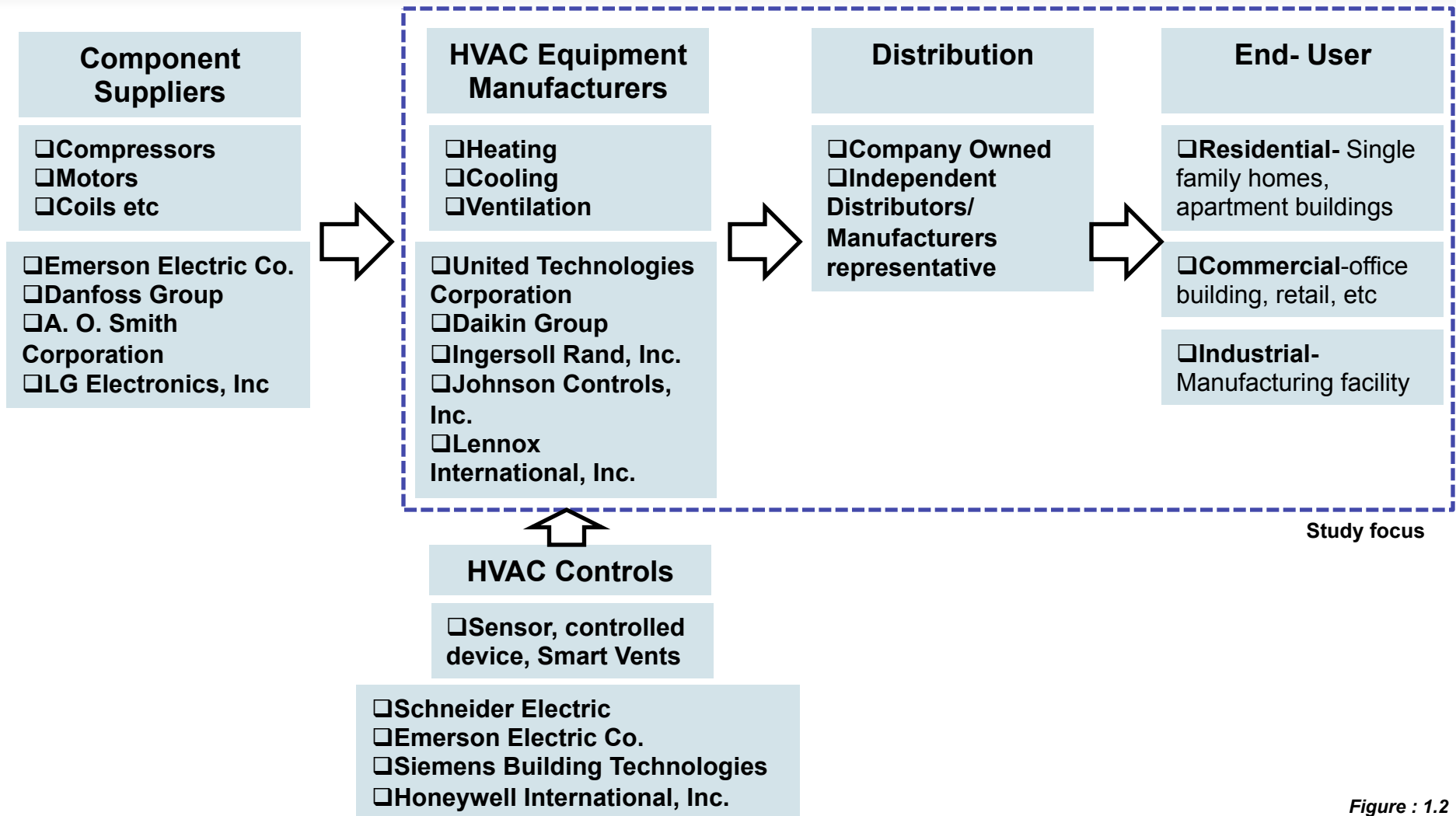


Figure : 1.2

TERMS & DEFINITIONS

- ❑ **HVAC:** Heating, Ventilation, and Air Conditioning. The term HVAC is used to describe the industry and technology of indoor air quality and comfort.
- ❑ **Air Conditioning (AC):** A system for controlling the temperature humidity & ventilation in a building to maintain a cool atmosphere in warm conditions.
- ❑ **Ton-** Unit of measurement for determining cooling capacity. One ton equals 12,000 BTUs.
- ❑ **British Thermal Unit (BTU/Btu):** The amount of heat that must be added to one pound of water to raise its temperature by one degree Fahrenheit.
- ❑ **Furnace:** An indoor heating unit that is a component of an HVAC system that adds heat to air by burning fuel (natural gas, oil, propane, butane, or other flammable substances) in a heat exchanger.
- ❑ **Heat Pump:** A type of heating and cooling equipment that draws heat into a building from outside; during the cooling season, it ejects heat from the building to the outside.
- ❑ **Boiler:** An encased unit that is designed to transmit the heat released from combustion to water.
- ❑ **Unit heaters:** Self-contained fan-type **heaters** designed to be installed within the heated space, such as rooms, garages, or factory floors.
- ❑ **Window Air Conditioner:** All the components, namely the compressor, condenser, expansion valve or coil, evaporator and cooling coil, are enclosed in a single box and the unit is fitted in a slot made in the wall of the room.
- ❑ **Split Air Conditioner:** Comprises of two parts: the outdoor unit and the indoor unit. The outdoor unit, fitted outside the room, has components like the compressor, condenser and expansion valve. The indoor unit comprises the evaporator, or cooling coil, and the cooling fan.
- ❑ **Mini-split (ductless) system:** Typically supplies chilled air to a single or a few rooms of a building. They are smaller in size and have flexibility for zoning or heating and cooling individual rooms.
- ❑ **Ducted air conditioning:** Offers whole-house or large-commercial-space cooling, and often has moderate multi-zone temperature control capability.
- ❑ **Packaged Terminal Air Conditioner (PTAC):** An air conditioner and heater combined into a single, electrically powered unit, typically installed through a wall and often found in hotels. This unit is usually used to condition a single room.
- ❑ **Packaged unit or a rooftop unit:** All the components of the air conditioners are enclosed in a single casing.

TERMS & DEFINITIONS

- ❑ **DX (Direct Expansion) Unit:** A type of air conditioning system that uses a coil system to expand the refrigerant and cool the air.
- ❑ **Variable Refrigerant Flow (VRF):** Direct expansion multi-split cooling and heating systems. It can integrate a large number of indoor units, each indoor unit having its own regulation system.
- ❑ **Air Handling Unit (AHU):** A central unit encased assembly consisting of a blower, heating and cooling elements, filter racks or chamber, dampers, humidifier, and other central equipment in direct contact with the airflow. This does not include the ductwork through the building.
- ❑ **Fan coil unit (FCU):** A simple device consisting of a heating or cooling coil and fan. It is part of an HVAC system found in residential, commercial and industrial buildings.
- ❑ **Unitary Air Conditioner:** As per AHRI, it includes both split and packaged air conditioners. Rooftop unit/Central Single-Package Equipment, PTAC, Split (ducted & ductless) are included in unitary air-conditioners.
- ❑ **Chillers:** A device that removes heat from a liquid. This is done via a vapour-compression or absorption refrigeration cycle. Chillers are of two types: air-cooled or water-cooled. Air-cooled chillers are usually outside and consist of condenser coils cooled by fan-driven air. Water-cooled chillers are usually inside a building and heat from these chillers is carried by recirculating water to outdoor cooling towers.
- ❑ **Cooling tower:** A heat transfer device, which cools warm water using outside air or water. Usually used to reject heat from the cooling process to the atmosphere.
- ❑ **Refrigerant:** A chemical that produces a cooling effect while expanding or vaporizing. It's used in most air conditioning and cooling systems.
- ❑ **HCFC:** Hydro-chlorofluorocarbons, used as a refrigerant in air conditioners and heat pumps. HCFCs are thought to contribute to the depletion of the earth's ozone layer.
- ❑ **R-22 Refrigerant:** The old standard for refrigerant used in air conditioners and chillers, R-22 refrigerant (Freon) is now being phased out by the U.S. EPA.
- ❑ **R-140A Refrigerant:** A chlorine-free refrigerant that meets the EPA's newest environmental guidelines.
- ❑ **Dehumidifier:** A device that removes excess moisture from the air.
- ❑ **Humidifiers:** Equipment that increases the humidity (moisture) level in a room or entire house.

TERMS & DEFINITIONS

Industry Associations

- ❑ **Air-Conditioning, Heating, and Refrigeration Institute (AHRI)** is a trade association of HVAC product manufacturers.
- ❑ **ASHRAE** (Formerly the **American Society of Heating, Refrigerating and Air Conditioning Engineers**), founded in 1894, is a building technology society that focuses on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry.
- ❑ **DOE: U.S. Department of Energy.** A federal agency that, among other objectives, is responsible for setting HVAC minimum equipment efficiency standards.
- ❑ The United States **Environmental Protection Agency (EPA)** is an agency of the U.S. federal government which was created for the purpose of protecting human health and the environment. EPA provides environmental information about many topics, including indoor air quality and energy.
- ❑ In 1992, the EPA launched the **Energy Star** program, a voluntary program that fosters energy efficiency.
- ❑ **US Census Bureau:** principal agency of the U.S. Federal Statistical System responsible for producing data about the US economy and American people.

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METHODOLOGY USED BY VERIFY MARKETS

The methodology used for formulating market trend projections is outlined below.

1. Historical trends were determined through secondary research and Verify Markets in-house database.
2. Secondary research was conducted. A list of key industry participants was put together.
3. Telephonic interviews were conducted. Most of the leading participants across the country were contacted.
4. Bottom up methodology was used to calculate the market size.
5. Market drivers and restraints were built into the forecasting model to estimate the revenue growth and market size figures.

Profiles of Interviewees: Vice Presidents, Marketing Managers, Business Development Managers, Brand Managers, CEO's (for smaller companies). Most of the primary interview data was captured through telephonic interviews. Company contacts and preliminary data was captured through secondary research.

DISCLAIMER

Despite Verify Markets' best efforts, certain challenges were encountered and certain assumptions had to be made. The extremely competitive nature of the market often results in an increased reluctance on the part of several competitors to discuss their market position, future plans, or market trends. Verify Markets used its skills and experience to extract the relevant data in order to complete the analysis. Verify Markets is not responsible for any incorrect information supplied to us by companies during our primary research process. Verify markets report is for customers' internal use and not for general publication. This research cannot be given, disclosed, or sold to non-customers or third parties. Since most of the data is based on company personnel views, it is subject to fluctuation. Company profiles, product descriptions and certain qualitative trends have been derived solely from secondary research and company websites.

METHODOLOGY

Identify industry participants through secondary research.

Review all secondary research data - company websites, on-line databases.

Develop the database of key industry participants.

**Questionnaire development
primary interviews
Which enables us to obtain data directly from industry participants.**

Cross verify and triangulate the data.

Analyze the data and use bottom up methodology.

WHO ARE WE

Verify Markets is a Research Firm specializing in Industrial, Environmental, Energy and Water markets. Our Research & Consulting practice provides global industry analysis, custom engagements, end-user analysis, strategy consulting, strategic market intelligence, and forecasts that are designed to facilitate strategic decision-making. Our team of consultants, industry experts and analysts continually monitor and evaluate information to create insights for your business needs. We are comprised of a group of analysts that have been tracking their respective markets for a number of years.

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Power Supplies & Batteries

Industrial Automation & Controls

Environmental Technologies

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Engineering & Construction Equipment

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Voice-of-Customer Research

Market Entry Strategies

Claim Validation

Competitive Intelligence

Procurement / Supply Side Analysis

Customized Newsletters

Whitepapers

Strategy Workshops

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