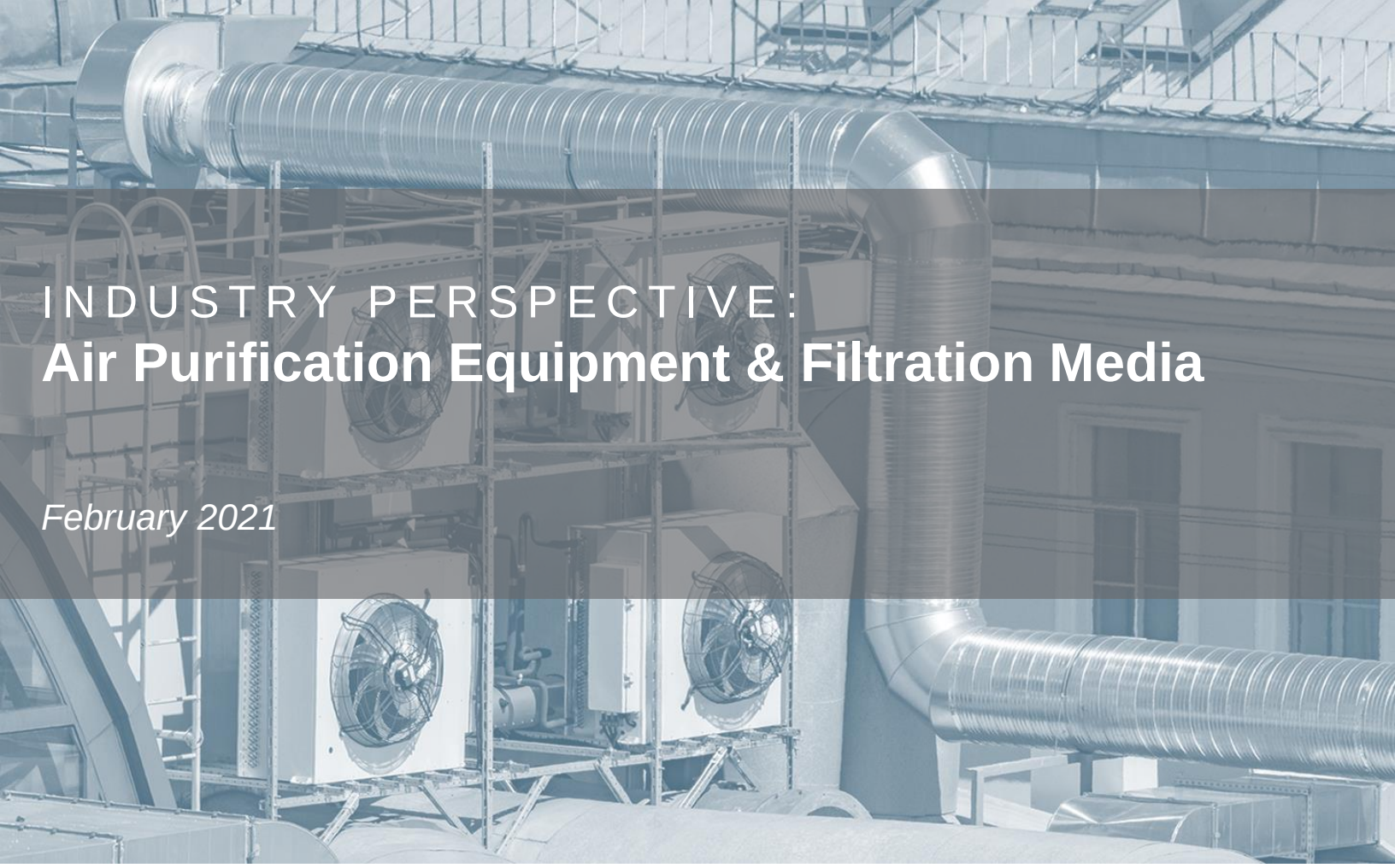

INDUSTRY PERSPECTIVE:

Air Purification Equipment & Filtration Media

February 2021

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EXECUTIVE SUMMARY

The air purification equipment manufacturing industry provides air filtration devices for diverse applications in manufacturing processes, office buildings and consumer markets. It also offers specialized filtration media for sterile environments such as clean rooms, hospitals and electronics manufacturing. Air purification devices are critical components in serving to reduce pollution and mitigate airborne pathogens.

The U.S. air purification equipment manufacturing industry is fragmented and includes only one large diversified global corporation, Honeywell International. Most of the market is composed of smaller, specialized players operating at the local level. In the coming years, major operators are expected to continue to develop new filtration technologies and leverage economies of scale. The need for effective filtration systems, environmental testing and equipment upgrades that provide additional protection from airborne pathogens has greatly increased after the onset of COVID-19.

KEY OBSERVATIONS

- Demand for air purification equipment is driven largely from the following main end markets: industrial manufacturers, commercial businesses and consumers. The major products of the industry can be grouped into general air-purification products, industrial air-purification products and other products/services
- The U.S. market for air purification equipment manufacturing is in the mature stage of its lifecycle, having experienced a decline in revenue at an annualized rate of 1.4% from 2015 to 2020. However, the industry is projected to see a CAGR of 2.1% to reach $3.3billion in revenue by 2025
- Air purification equipment manufacturers compete predominantly on brand loyalty, price and product development. With significant import pressure due to cheaper products abroad, U.S. manufacturers must differentiate based on quality and industry application to compete with low-cost imports. However, expectations are that exports will rise at a higher rate than imports through 2025 due to continued weakness of the U.S. dollar
- The outlook is optimistic for the demand for air purification equipment and related services. With COVID-19 concerns, an expected continued surge in global population and growing awareness of deteriorating and unsafe air quality levels in indoor spaces, air purification system installations and services are expected to grow significantly worldwide
- Recent merger and acquisition activity has resulted in industry consolidation and is expected to continue as M&A helps companies penetrate and expand their reach

INTRODUCTION TO AIR PURIFICATION EQUIPMENT

Air purification equipment are devices that remove contaminants from enclosed environments. They are typically sold as stand-alone units or as components of larger HVAC systems. Purification equipment is marketed to a broad range of industries including industrial manufacturing, construction, commercial businesses, consumers electronics, healthcare, and energy utilities.

The devices employ both active and passive purification methods. Active air purifiers release ionized air that attaches to pollutants, weighing them down until they drop to surfaces which are subsequently cleaned. Passive purifiers force surrounding air through filters and other media.

Air purification equipment is commonly custom-built but are generally classified as mechanical or non-mechanical.

NON-MECHANICAL:

- **Dust collectors** are used to collect fine dust and other particles from industrial environments. Blowers push environmental air through dust filters and deposit the particulates in receptacles, which are regularly cleaned. They are effective in industries such as mining, aggregates, pulp and paper plants, woodwork, steel mills and metallurgical plants that produce high volumes of dust, powder, smoke or other fumes. Cyclonic models are the most common dust collectors; they force particles through a funnel-like chamber and separate larger particles into a drum, maximizing airflow without damaging the blower.
- **Mist collectors** filter liquid or solid particles generated by coolants and oils used in manufacturing processes, such as wet machining and metalworking. Particulates that settle on surfaces become significant safety hazards in these facilities. The material that is collected by the machine is often recycled for future use, resulting in cost savings for their users. Previously, particulates captured by mist collectors were removed through external venting, often damaging the surrounding environment.
- **Baghouse filters** are devices that capture fine particles and gas released during manufacturing and energy generation processes. Contaminated air is passed through fabric bags in tube or envelope shape that act as filters. They are primarily used in power plants, steel mills, pharmaceutical plants, chemical plants and food manufacturing facilities.
- **Ultraviolet germicidal irradiation ("UVGI") devices** use UVC light to sterilize microorganisms from the surrounding air. UVC light wavelengths are shorter than other harmful UV light, allowing them to kill or inactivate microbes by damaging their deoxyribonucleic acid, disrupting their cellular functions. Many UVGI devices are able to sterilize 99.9% of the pathogens present in their environment. They are not capable of removing physical particles or gases but are typically incorporated into other filtration systems. UVGI is generally used in hospitals, scientific labs and kitchens; but, as health concerns grow, demand in consumer and commercial markets is increasing.
- **Ionizer purifiers** electrically charge air molecules by emitting anions or cations that bind to particulates which are then attracted to grounded conductors, either plates within the device or surfaces in the area. There are two types of ionizers: fan-base and fan-less. Fan-base ionizers rapidly circulate air around an enclosed area and are more time-efficient but consume more energy than their fan-less counterparts.
- **Activated carbon filters** are beds of porous, activated carbon that trap and adsorb volatile organic compounds, odors and gases on a molecular level. Activated carbon's surface area within its lattice of pores is hundreds of square meters per gram. Molecules diffuse through the material until they lose energy and are adsorbed in the pore walls. While it adsorbs gases and contaminants missed by fiber filters, activated carbon does not trap particulates and is used in conjunction with other filtration methods to improve efficiency.

MECHANICAL:

- **Mechanical air filters** use replaceable fiber filters to remove small particles from the air. They are the most common air purification devices. Their efficiency primarily depends on the air flow they generate, size of the filters, diameter of the fibers and pleats per square foot. Filters must be replaced regularly as particulate builds up and because microorganisms can reproduce in the fibers after being captured. This equipment is used in manufacturing processes that require sterile environments, hospitals and in commercial and residential spaces to reduce asthma and allergy triggers.
- Mechanical air filters use different types of filtration media components that are categorized by their structure and material composition. The filters' efficiency can vary widely depending on their intended application. MERV (minimum efficiency reporting value) ratings are used to evaluate mechanical air filters' efficiency on a scale from one to twenty. Filter with a MERV rating of 20 remove 99.99% of particles greater than 0.1 microns, while filters with a MERV rating of 1 are only expected to remove 20% of the contaminants. However, more effective filters process the air flow at a slower rate than their low-MERV rated counterparts. Mechanical filters include:
- **Washable filters** are low efficiency filters designed to be periodically removed, washed and reinstalled. The most common washable filters use woven thermoplastic polymer fibers that have electrostatic properties. As airborne particles pass through the first layers of the filter, they are positively charged and will then adhere to the proceeding several layers. Washable filters are cost-effective but capture less particulate than other filter media.
- **Panel filters,** or throwaways, are the least effective disposable fiber filters. They are lower-priced and typically made with fiberglass. The filters provide temperature resiliency but trap few micron particles.
- **Cartridge filters** are modular round or conical filter media, usually made of cellulose and polyester. They have a rigid frame and aluminum dividers that help retain their shape under stressful conditions such as volatile temperatures or airflow. The filters are not designed to capture small particles. The most common application is for use in industrial dust collectors.
- **Pleated filters** are composed of woven polyester fabrics or cotton folds. They have larger surface area than the simpler single panel filters and are able to adsorb more particulate. Their efficiency scales up with the number of pleats and surface area of the filters.
- **Box filters**, or compact filters, are structures comprised of a series of fiber filters. The type and efficiency of their component filters varies depending on their application but are usually used in HVAC systems as final filters.
- **Bag filters**, or pocket filters, are high efficiency filters used in industrial, commercial and medical applications. They are often used as prefilters in HEPA filtration systems. The media is micro-fine glass and is occasionally tapered into pleats to increase the filter efficiency. Bag filters are suited for systems with constant air flow since there is a tendency for captured material to flow back into the air stream when the filters deflate.
- **HEPA filters**, or high-efficiency particulate air filters, are pleated mechanical filters that exceed MERV ratings and are composed of mats of randomly arranged fibers (typically fiberglass). They trap 99.97% of particles with a diameter equal to 0.3 microns. HEPA filters utilize three primary collection mechanisms: diffusion traps the smallest particles through Brownian motion; interception collects the particles following the air steam that come within one radius of a fiber; and inertial impaction traps the largest particles that are unable to follow the curving air stream. HEPA filters are very effective but do not filter out gas or odors. As a result, they are often used in combination with other filtration media.

SERVICES

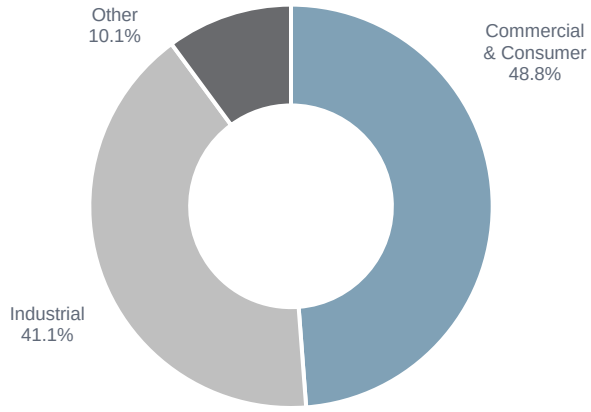
Some air purification businesses also offer various maintenance, environmental consulting and air/surface quality testing services that provide additional value to industrial manufacturers, businesses and consumers.

- **Indoor environmental testing and evaluations** involve building environment health assessments, analysis of the financial and operational benefits an HVAC system has on a business and real-time monitoring of aerial matter and conditions. For indoor environments, a series of assessments that do not require laboratory analysis can be taken for mold, moisture, temperature or other contaminants via risk assessment and thermography. Once all the evaluations are completed, a report is then compiled with the data for further analysis and health/financial recommendations, if needed. With respect to real-time monitoring, live autonomous sensor technology can be used to monitor the oil circulation of HVAC systems which provides data on the health and functionality of the overall system. Other synchronal systems involve live updates of factors including temperature, humidity, Co2, VOC, PM2.5 and PM10 levels which ensures a prompt fix, if necessary, of any critical and sensitive infrastructure.
- **Microbiological testing/analysis services** involve taking samples of air, surface or liquid to test for allergens, microbes, chemicals and other harmful substances, especially in an indoor environment where ventilation is much weaker. These environmental samples are then analyzed at a laboratory with cutting-edge technologies. Test are focused on fibers, bacteria, fungi, legionella, asbestos and chemicals. These substances all are potential sources of infection, allergens and disease-causing agents.
- **HVAC, building, and mold remediation or other maintenance services** include the periodic fine-tuning of machinery and equipment to ensure processes are efficient and at peak performance. Routine filter cleaning, wear and tear check and disinfection/restoration ensure a longer lifespan and optimal performance of purifier systems. Results can range from energy savings from cleared debris in coils to restoring HVAC equipment to optimal functionality at 10-30% of total replacement cost, stopping corrosion and improving sustainability. These procedures are increasingly important because COVID-19 has caused the closure of commercial spaces for months given the work-from-home state, resulting in low HVAC loads for several months and system control sensors that may have failed or need additional calibration. HVAC machines need to be evaluated to ensure that they can handle a substantially different usage capacity as employees return to the workplace.

MARKET SEGMENTATION FOR U.S. AIR PURIFICATION EQUIPMENT

The U.S. air purification equipment manufacturing industry is expected to generate revenue of $3.0 billion in 2021. Larger equipment manufacturers typically market their products directly to end users and through wholesalers/distributors. Smaller producers manufacture niche or customized equipment and generally sell directly to industry customers. The largest industry segment is general-use air purification products, sold to consumers and businesses with air filtration needs. The proportion of industry revenue for general-use equipment is closely followed by that of industrial air purification products, which consist of equipment designed to maintain industrial processes with higher efficiency demands

MARKET SEGMENTATION (2020)



Source: IBISWorld

GENERAL PRODUCTS

General-use air purification equipment is expected to account for 48.8% of industry revenue in 2020, generating $1.42 billion in revenue. This segment includes equipment which is aimed at cleaning air for consumers and businesses and is not designed specifically for industrial processes. The most demanded products in this segment are high-efficiency particulate air (HEPA) filters and dust collectors. HEPA filters account for 25% of overall industry revenue and are used to reduce air borne particulate in businesses that require sterile environments, such as hospitals and clean rooms. Other commercial entities and consumers purchase HEPA filter devices out of health and safety concerns either as purification system components or with products like household vacuums. HEPA filters effectively reduce allergens and asthma triggering particles.

Dust collectors are capable of filtering high volumes more efficiently than media air filters and vacuums. The devices collect particles from the air where business processes generate large amounts of fine dust, smoke and other pollutants. The systems are typically custom-built to meet the needs of the industry and facilities. As a result, they do not adhere to any efficiency standard.

General-air purification product revenue is expected to grow at a faster rate than other industry segments through 2025. Consumer demand is expected to accelerate primarily as a result of increased health-consciousness. However, demand in this segment is also driven by per capita disposable income. If per capita disposable income recovers to near prior growth expectations of an annualized rate of 1.8% through 2025, the segment is expected to grow approximately 2.0%.

INDUSTRIAL PRODUCTS

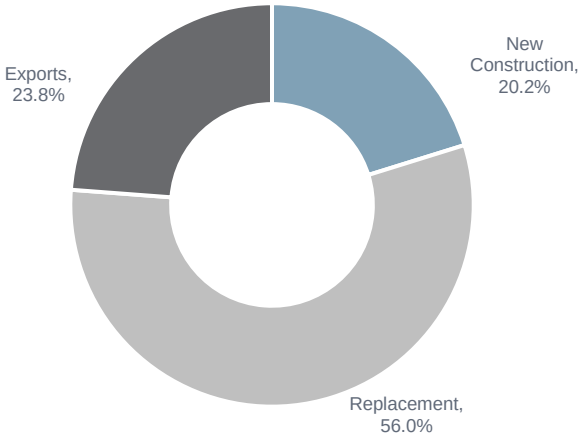
Revenue from industrial air purification equipment is expected to be 41.1% of overall industry revenue in 2020. This segment includes purification of air that is created during industrial processes. The primary product types in this segment are mist collectors and baghouse filters which are typically used during manufacturing. Even though prior to COVID-19, these markets were expected to stabilize over the next five years, the industry's downstream markets are historically exposed to swings in macroeconomic business cycles.

While systemic issues with traditional manufacturing persist, the trend towards high value-added processes and services is expected to result in more sophisticated facilities that will require air purification equipment and result in less reliance on cheaper, more generic import products. Commodity prices are anticipated to recover from recent volatility and generate stronger demand from the mining and energy markets and, in turn, higher production from the mining industry. Industrial equipment revenue is expected to rise at an annualized rate of 1.8%.

OTHER PRODUCTS

Other categories are expected to account for 10.1% of industry revenue in 2020, consisting mainly of UVGI equipment and filters. Historically, these devices were principally used in hospitals, labs and kitchens; but due to concerns surrounding COVID-19, ultraviolet filters are expected to expand to other end markets. Research has demonstrated UV light can reduce the transmission of other air borne infectious diseases by over 80%. Because of its effectiveness, equipment has been deployed at airports and can be effective in other markets with a public presence. UV lighting is also being used to disinfect personal protective equipment (PPE) through a process which places them in light towers for periods between 30 minutes and two hours depending on spacing conditions.

NEW/REPLACEMENT/EXPORT SEGMENTATION (2020)



Source: IBISWorld

The industry can also be divided into replacement, new construction and export segments:

- **Replacement sales** are expected to account for 56.0% of industry revenue in 2020. Air purification devices are a critical component of many industrial facilities and scientific labs as these facilities require a continuous, stable and regulated environment for business operations. When these same products are marketed to regular consumers and businesses that do not require such sophistication or frequency in filter change, that segment will most likely service their demand with less expensive imports. Nonetheless, filter replacement and system upgrades are major drivers of industry revenue.
- **New construction** activity is expected to account for 20.2% of revenue in 2020. With improved technologies, projects often feature high-end and larger scale purification systems to fit specific client needs. In addition, demand for high-end systems is expected to increase in light of the current COVID-19 health crisis. Even though construction's long lead-times and substantial costs cause it to lag behind the business cycle, the low Federal Reserve target interest rate is expected to provide a marginal boost to investment activity while non-residential construction investment is expected to increase at an annual rate of 3.1%.
- **Exports** are expected to reach 23.8% of industry revenue in 2020 and consist mainly of industrial air purifiers. Over the previous five-year period, exports declined at an annualized rate of 0.3% to $684.7 million largely due to a strengthening U.S. dollar. The dollar has depreciated since March 2020 and is projected to remain below the previous period's levels, boosting exports. Even though the lift in exports provided by the decline in the dollar may be offset to some degree by the recent shock to global trade, exports are expected to rise at an annualized rate of 2.4% through 2025, substantially higher than the anticipated 1.5% growth in imports over the same period.

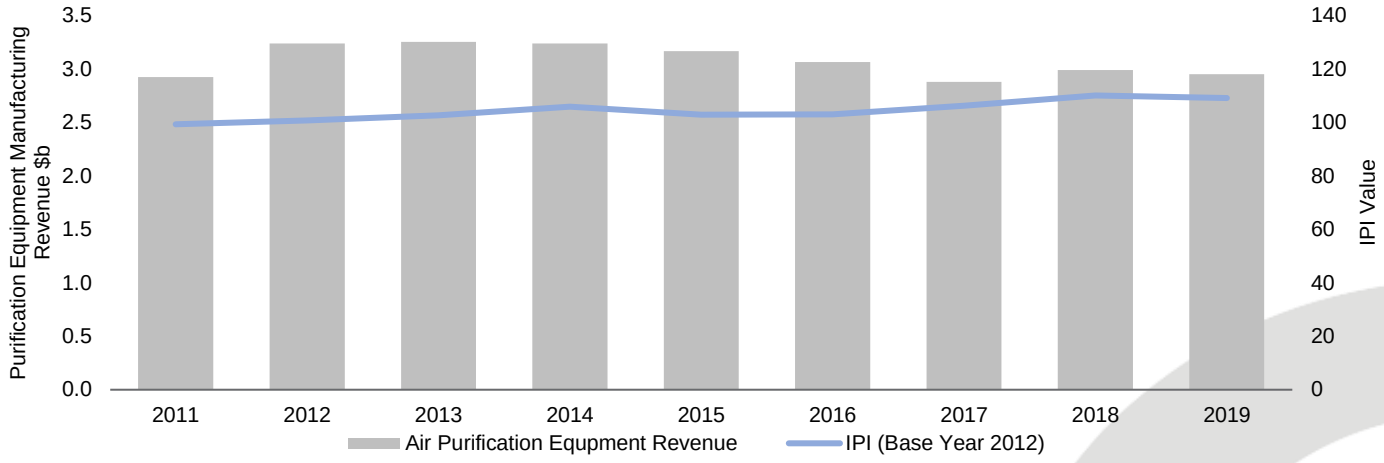
U.S. INDUSTRY ANALYSIS

INDUSTRY DYNAMICS

Generally, each sector trend in this industry affects another sector in some way. Demand from the industrial sector is derived from manufacturing activity levels, which is ultimately impacted by consumer spending/demand levels for air purification equipment or any other services. Additionally, manufacturing activity levels are impacted by business demand, which is mostly derived from non-residential construction of new buildings and facilities. An increase in overall industry demand can also be generated from greater profits from end markets.

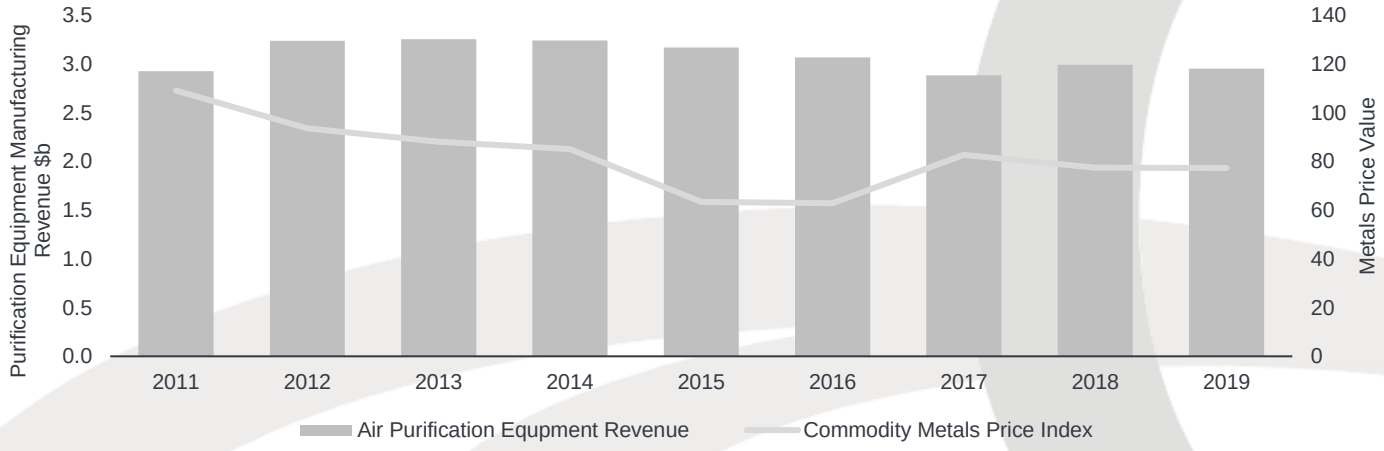
The portion of industry revenue attributable to the industrial sector (41.1%) has been historically correlated to the performance of the industrial production index (IPI). Generally, increases in industrial production result in higher demand for air purification equipment as manufacturing activity and resulting potential airborne particles increase. But while industrial production rose 1.3% over the five years to 2020, corporate and consumer profits did not increase at the same pace, resulting in lower replacement activity. Non-residential construction also declined 0.5% over the same period, discouraging new purifier system construction from businesses.

AIR PURIFICATION REVENUE SENSITIVITY TO IPI



Source: IBISWorld, Federal Reserve Economic Data (FRED)

AIR PURIFICATION REVENUE SENSITIVITY TO METALS PRICE INDEX



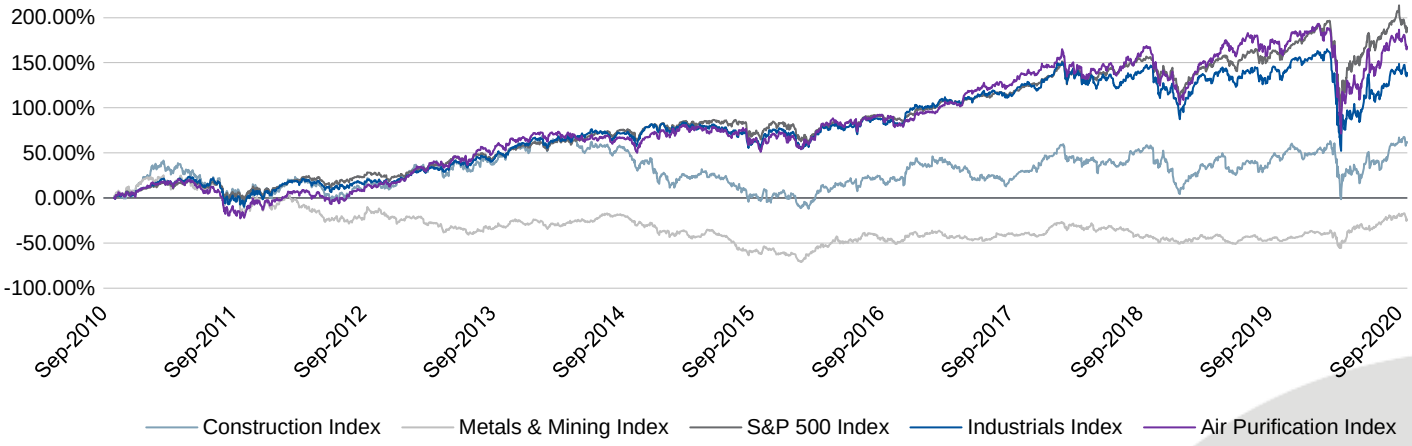
Source: IBISWorld, S&P Capital IQ.

HISTORICAL TRENDS

The domestic air purification equipment manufacturing industry experienced a decline of 1.4% annualized over the past five years with industry demand facing downward pressure from key end markets. Major declines in commodity prices in 2015 and 2016 led to softness in both industrial production and non-residential construction activity. Mining, and therefore mining production, suffered as the world prices of iron, aluminum and nickel fell alongside other commodities, including oil. The U.S. dollar appreciation also led to a decline in exports to foreign buyers. Even though commodity prices bounced back in 2017, the long-term effects of the dip including supply-chain shocks in 2016 delayed the industry's revenue recovery. However, in 2018 improvements in end market conditions and the dollar's depreciation resulted in revenue growth, aided by an increase in exports.

Even though industrial manufacturing activity has declined over the past five years, the importance and demand of air purification products and services was on the rise even before the onset of COVID-19. Increased urbanization, greater level of pollutants from industrial output and an overall escalated awareness of health trends were underway and contributed to the growing demand of air filtration systems.

AIR PURIFICATION INDEX COMPARISON

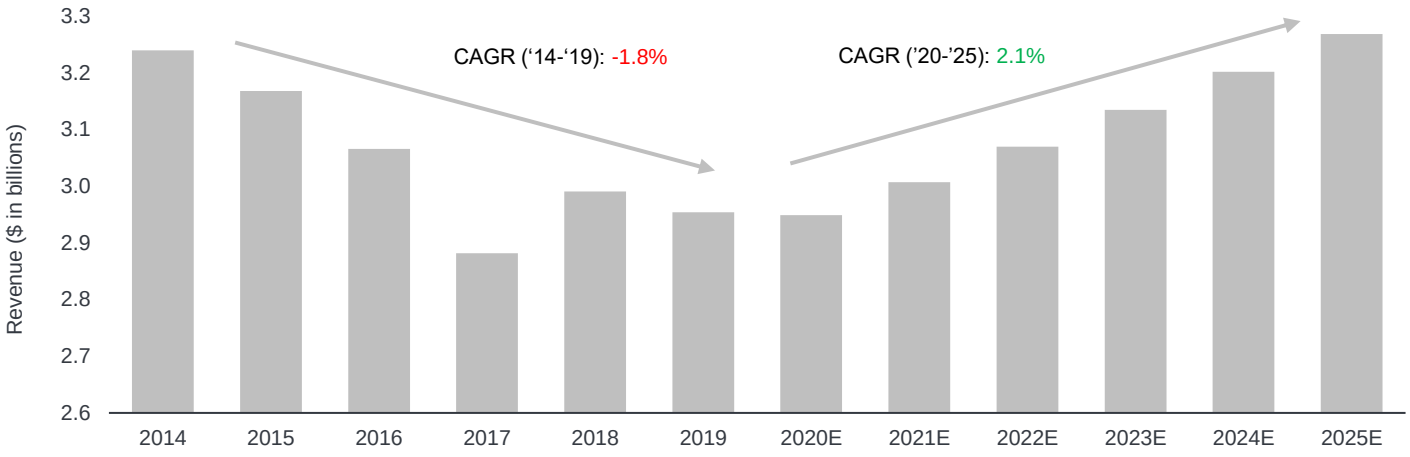


Source: S&P Capital IQ
* Proprietary index built from public U.S. air purification manufacturing companies.

The U.S. market for air purification equipment is in the mature stage of its lifecycle. The industry is expected to underperform the economy as a whole during the next five years with a projected Industry Value Added (IVA) of 0.3% through 2025, compared to expected U.S. GDP growth of 1.8% over the same time frame. Usually, this is an indication that the industry is in decline. However, the projected IVA is only a reflection of trade flow developments, commodity price volatility and their cumulative effect on industry revenue. Activity in these markets is expected to continue to track business cycle factors such as industrial manufacturing levels, non-residential building construction and consumer spending.

Even though growth in air purification manufacturing has historically been tied to overall economic growth, there may be room for outperformance as expected demand for air purification equipment and services from consumer and commercial business markets rise. This is due to trends in health and wellness standards and industrial safety. The WHO has labeled air pollution as one of the leading causes of death every year, linking it to an annual 1 in 10 deaths. The average person breathes in 2,650 gallons of air per day, including coarse particles ranging in different sizes that could either be filtered by natural upper respiratory filters or particles smaller than 1 micron that can travel in the blood stream and cause life-threatening diseases. Dust, mold spores, smoke, bacteria, pollen and other air pollutants are expected to continue to pose health risks and drive demand for the industry.

U.S. AIR PURIFICATION EQUIPMENT MANUFACTURING MARKET SIZE



Source: IBISWorld.

Industry revenue is expected to grow at 2.1% annualized through 2025 to reach $3.3 billion propelled by a projected rise in IPI of 1.3%, stabilized commodity prices, an increase in industrial equipment investments of 1.8%, favorable interest rates, non-residential construction growth of 3.1% and a decline in the trade-weighted index. The industrial manufacturing trend towards higher value-added services is also expected to contribute to growth.

IMPACT OF COVID-19

After the onset of COVID-19, consumers sought air purifiers that not only eliminate dust, pollen, smoke and other common irritants but also dangerous airborne germs, bacteria and viruses at home or in the workplace. According to the EPA, indoor air tends to be two to five times more polluted than outdoor air since there is less ventilation and recirculation of air. While COVID-19 has disrupted the air purification equipment industry's manufacturing markets, a secondary effect is increased demand from consumers, tenants and commercial businesses. The Centers for Disease Control and Prevention ("CDC") recommends using standalone and integrated HVAC filters in coordination with other practices to reduce transmission of COVID-19 in indoor spaces. Small, infectious aerosols diffuse in indoor environments, expanding the distance the virus can be transmitted. ASHRAE research and independent scientific studies have found that mechanical filtration and ultraviolet germicidal irradiation are effective strategies to reduce the dissemination of infectious aerosols in buildings.

HEPA filters are the most effective mechanical filters in reducing the transmission of air-borne pathogens. The virus that causes COVID-19 is approximately 0.125 microns, a particle size that HEPA filters capture with nearly 100% efficiency. Air filter manufacturers have developed air purifiers that eliminate 99.9% of airborne COVID-19 particles as verified by an independent laboratory and the Food and Drug Administration ("FDA"). A growing number of industries are incorporating HEPA filters in their operations, including airlines, to promote air circulation and recycle up to 30 percent of cabin air on aircraft.

Aside from HEPA filters, other filters effectively remove micron particles from the air. UVGI equipment has also been proven effective at eliminating airborne pathogens, including bacteria and viruses. The UVC light emitted by the devices destroys the virus' RNA while remaining safe for humans. A 2015 study found that upper room germicidal UV air disinfection, supported by effective air flow, reduced the transmission of tuberculosis by approximately 80%. Portable UV units are already being used to sterilize surfaces in hospitals and mass-transit settings. Overhead and induct ultraviolet fixtures allow facilities to eliminate viruses without interrupting business operations, and demand for these devices has increased substantially. The success of HEPA and additional developments highlight the importance of small particle filtration effectiveness in future industry market penetration.

With an influx of air purification equipment installations comes a greater demand for maintenance, health/financial assessments of HVAC systems and a propensity for microbiological testing as health awareness rises. These services are not just expected to pertain to new installations but more so to previous systems, as filtration capacity and environment safety need to be reassessed with employees returning to indoor commercial buildings and spaces after COVID-19 induced shutdowns. Mold and bacteria build-up is expected as they multiply on filters over a period of time. At the same time, installations of new and innovative systems that have been developed to protect against COVID-19 will also be in demand.

The global slow-down in economic activity caused by the pandemic has negatively impacted demand for air purification equipment manufacturing. However, the public awareness of COVID-19 has compounded the effects of health and wellness trends, and demand from consumers and commercial business has blossomed. In addition, demand for more expensive products that effectively address filtering coronavirus particles is expected to mitigate the impact of lower industrial activity and spending.

COMPETITIVE LANDSCAPE

The air purification equipment manufacturing industry provides air filtration devices for diverse applications in manufacturing processes, office buildings and consumer markets. It also offers specialized filtration media for sterile environments such as clean rooms, hospitals and electronics manufacturing. Air purification devices are critical components in serving to reduce pollution and mitigate airborne pathogens.

The U.S. air purification equipment manufacturing industry is fragmented and includes only one large diversified global corporation, Honeywell International. Most of the market is composed of smaller, specialized players operating at the local level. In the coming years, major operators are expected to continue to develop new filtration technologies and leverage economies of scale. The need for effective filtration systems, environmental testing and equipment upgrades that provide additional protection from airborne pathogens has greatly increased after the onset of COVID-19.

Honeywell is a technology and manufacturing company with products serving a broad range of end markets from aerospace to home security. The company operates its air purification manufacturing through its Home and Buildings Technologies segment. That segment produces air cleaners, air cleaner filters, air purifiers, air purifier filters and UV purifiers. Honeywell's estimated industry-specific revenue for 2020 is $624.9 million. From 2015 to 2020 Honeywell increased its market share from 15.7% to 21.2%. Its growth is expected to continue as the industry expands in response to increased industrial activity.

Lennox is a manufacturer and distributor of HVAC systems for residential and commercial customers. It was expected to generate $132.7 million in industry-specific revenue for 2020, accounting for 4.5% of total industry revenue.

While neither Honeywell nor Lennox focus on air purification equipment exclusively, most small to medium-sized industry manufacturers do. Many smaller manufacturers specialize in equipment for specific end markets. Few of these small to medium-sized companies employ more than 500 workers. The average air purification equipment manufacturer has 53 employees and one or two production facilities.

Air purification equipment manufacturers compete on several factors:

- **Brand Loyalty:** The industry has a high degree of brand loyalty. With significant specialization in the industry, there is strong customer retention.
- **Price:** Industry competition is largely determined by price. The larger, diversified manufacturers enjoy economies of scale that the small and medium-size firms do not. The larger industry players share machinery and production facilities, and their large purchases of raw material enable significant purchasing power.
- **Technological Innovation:** The air purification manufacturing industry is characterized by high levels of technological innovation, as industry participants increasingly focus on developing specialized filtration equipment with the highest precision, quality and durability to attract new customers.
- **Product Development:** The industry's slow growth forces manufacturers to expand their market share by introducing new product designs and technologies. The product development required to stay competitive results in substantial research and development costs.

M&A ACTIVITY

Merger & acquisition activity in the air purification equipment manufacturing industry has mostly taken the form of add-on/tuck-in purchases of smaller companies to expand platform companies' product lines, geographic reach and vertical integration. Below are three recent notable transactions.

Dantherm CONTROL YOUR CLIMATE	MADISON INDUSTRIES	SYNOPEX
Has acquired	Has acquired	Has acquired
HEYLO	STERIL-AIRE	SFTC
October 2020	October 2020	July 2020

NOTABLE TRANSACTIONS:

- In October 2020, Dantherm Group A/S acquired HEYLO GmbH to expand its air cleaning and dust control product set.
- In October 2020, Madison Industries acquired Steril-Aire to increase its presence in the air filtration market.
- In July 2020, Synopex Inc. acquired a majority stake in Flontec Co., Inc. as part of a strategy to vertically integrate its filtration and membrane business.

APPENDIX

SELECT M&A TRANSACTIONS

DATE	ACQUIRER	TARGET	TARGET DESCRIPTION
Oct-20	Dantherm Group	HEYLO GmbH	Manufactures climate control solutions for the industrial and construction sectors including filters and dust control systems.
Oct-20	Madison Industries	Steril-Aire, Inc.	Manufactures UVC emitters for HVAC systems and hand-held devices that sterilize environments of mold, bacteria and virus infestations.
Jul-20	Synopex, Inc.	Flontec Co., Ltd.	Produces and distributes ePTFE membranes used in ultra-low particulate and high efficiency particulate air filters.
Apr-20	Camfil AB	Resema AB	Manufactures a complete line of carbon and mechanical filters for use in industrial processes and HVAC systems.
Mar-20	BDG & Partners Financial Corp,	Sanuvox Technologies Inc.	Manufactures stand-alone and in-duct ultraviolet air purification equipment for commercial, residential and medical applications.
Mar-20	Camfil AB	Airepure Australia Pty. Ltd.	Manufactures pre-filters, bag filters, HEPA filters and carbon panels.
Feb-20	Blue Box Air LLC	Filtration Services Group, LLC	Manufactures pleated panel filters, rigid cell filters, HEPA filters, dust and mist filters and gas phase absorbers.
Jan-20	B&B Trends, S.L.	Zelmer S.A.	Manufactures household appliances including air purifiers, fans and vacuum cleaners.

SOURCE LISTINGS

ASHRAE
180 Technology Pkwy
Peachtree Corners, GA 30092
+1 404 636 8400
www.ashrae.org

CDC - NIOSH
4676 Columbia Pkwy
Cincinnati, OH 45226
+1 513 841 4428
www.cdc.gov/niosh

Department of Labor
200 Constitution Ave., NW
Washington, DC 20210
+1 866 487 2365
www.dol.gov

EPA
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
+1 202 564 4700
www.epa.gov

Federal Reserve
1 Federal Reserve Plaza
St. Louis, MO 63102
+1 314 444 8444
www.stlouisfed.org

IBISWorld
40 Wall St.,15th Floor
New York, NY 10005
+1 917 267 0283
www.ibisworld.com

NAFA
1818 Parmenter St., Ste 300
Middleton, WI 53562
+1 608 310 7542
www.nafahq.org

NASA STI Program
8600 Rockville Pike
Bethesda, MD 20894
+1 301 594 5983
www.ncbi.nlm.nih.gov

NIH - NCBI
8600 Rockville Pike
Bethesda, MD 20894
+1 301 594 5983
www.ncbi.nlm.nih.gov

S&P Capital IQ
810 7th Ave.
New York, NY 10019
+1 212 812 4600
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Origin is dedicated to providing solutions for the aerospace & defense, automotive, building products, capital equipment, industrial distribution & business services, electrical products, flow control, HVAC, metals and plastics & packaging segments of the economy. Our deep experience in these industries facilitates the identification of important industry and market trends, a company's key value drivers and qualified buyers, lenders and investors, thereby improving the likelihood of a transaction closing at a premium value and on a timely basis. Origin is a member firm of ASHRAE, an organization dedicated to the fields of heating, ventilation, refrigeration and air conditioning.

INTERNATIONAL CAPABILITIES

Origin is a member of the Terra Corporate Finance Alliance, a leading international alliance of middle market investment banks with operations in North America, South America, Europe, the Middle East, Africa and Asia. Through this network, Origin has a platform for offering enhanced identification of, and access to, potential transaction parties around the globe. Collectively, over the past five years, the Terra alliance advised on more than 490 M&A transactions with a total value in excess of USD $36 billion.

TERRA ALLIANCE
www.terra-alliance.com

EXECUTIVE TEAM

Bill Doepke[1]
Principal, Investment Banking
william.doepke@originmerchant.com

Bob Wujtowicz[1]
Principal, Investment Banking
robert.wujitowicz@originmerchant.com

Bruce Durkee[1]
Principal, Investment Banking
bruce.durkee@originmerchant.com

Nick Newlin[1]
Principal, Investment Banking
nick.newlin@originmerchant.com

Scott Simms[1]
Director
scott.sims@originmerchant..com

1 Registered Representative
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