

Isostatic Pressing Market Poised for Growth, Expected to Reach USD 13.66 Billion by 2032 with a 6.86% CAGR

Isostatic Pressing Gains Traction in Powder Metallurgy for High-Performance Components in Aerospace, Automotive, and Medical Sectors.

AUSTIN, TX, UNITED STATES, January 29, 2025 /EINPresswire.com/ -- The <u>Isostatic Pressing Market</u> size was valued at USD 7.52 billion in 2023 and is projected to reach USD 13.66 billion by 2032, growing at a CAGR of 6.86% during the forecast period 2024-2032.



This growth is primarily fueled by increasing demand for high-performance materials across industries, advancements in manufacturing processes, and the rising adoption of isostatic pressing techniques in the automotive, aerospace, and healthcare sectors.

Key Market Drivers

Rising Demand for High-Performance Materials

The growing adoption of high-performance materials in aerospace, automotive, and medical industries is a significant driver of the isostatic pressing market. These industries demand materials with superior strength, durability, and precision, which are achievable through isostatic pressing techniques like hot isostatic pressing (HIP) and cold isostatic pressing (CIP). These methods enable the production of components with uniform density, improved mechanical properties, and reduced porosity, making them essential for critical applications.

Expansion in Aerospace and Automotive Sectors

The aerospace and automotive industries are witnessing significant growth, driven by increasing investments in lightweight and high-strength materials to improve fuel efficiency and performance. Isostatic pressing is widely used to manufacture critical components such as

turbine blades, engine parts, and structural components, which require superior material properties. The surge in demand for electric vehicles (EVs) and advancements in aerospace technologies further propel the need for isostatic pressing solutions.

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Key Players:

- Bodycote (Hot Isostatic Pressing Services)
- Kennametal Inc. (Hot Isostatic Pressing, Powder Metallurgy Components)
- Pressing Technology, Inc. (Cold Isostatic Pressing Services)
- The Metal Powder Company Ltd (Powder Metallurgy, HIP Services)
- Nippon Steel Corporation (Isostatic Pressing for Steel Alloys)
- Uniformed Pressing Company (Cold and Hot Isostatic Pressing Services)
- Los Alamos National Laboratory (Advanced Materials via HIP)
- GTP (Cold Isostatic Pressing Equipment)
- Mersen (Isostatic Graphite, High-Temperature Components)
- Sumitomo Metal Mining Co., Ltd. (HIP Services for Superalloys)
- General Electric (HIP Services for Aerospace Components)
- IHI Corporation (Isostatic Pressing for Powder Metallurgy)
- Linde AG (Cold Isostatic Pressing Equipment)
- Sinter Cast (Advanced Isostatic Pressing for Industrial Applications)
- Treibacher Industrie AG (Isostatic Pressing for Titanium and Alloys)
- Materialise NV (Metal Powder HIP Services for Medical Devices)
- Shaanxi Yulin Special Metal Co. (Hot Isostatic Pressing for Aerospace)
- Tungsten Heavy Powder & Parts (Isostatic Pressing for Heavy Metals)
- Xiamen Tungsten Co., Ltd. (Isostatic Pressing for Tungsten Alloys)
- Hitachi Metals Ltd. (Hot Isostatic Pressing for Industrial Components)
- Quintus Technologies (Hot Isostatic Pressing for Advanced Materials)

Segmental Analysis

Ву Туре

Hot Isostatic Pressing (HIP) In 2023, the HIP segment accounted for over 69% of the market share. HIP is extensively used in the aerospace, medical, and power generation industries to improve material properties such as strength, fatigue resistance, and creep resistance. The ability of HIP to eliminate internal voids and enhance material uniformity makes it indispensable for critical applications.

Cold Isostatic Pressing (CIP) The CIP segment is expected to grow at a notable rate, driven by its cost-effectiveness and ability to produce complex shapes. CIP is widely used in the production of

ceramics, powdered metals, and graphite components, which find applications in various industrial sectors.

By Offering

In 2023, the Isostatic Pressing market was dominated by the Services segment with approximately 69% of total revenue. Such a stronghold is indicative of its relevance in supporting industries such as aerospace, automotive, medical, and energy which demand precision and performance for their components. Outsourced Hot Isostatic Pressing (HIP) and Cold Isostatic Pressing (CIP) services are preferred over in-house services owing to their cost-effectiveness since organizations with such requirements do not need to invest in expensive equipment and technical know-how for performing services. Service providers have at their disposal HIP systems built to the topmost standards which can reach pressures of up to 200 MPa and temperatures greater than 2000°C to accommodate a variety of materials ranging from metals to ceramics. Their attractiveness is also well complemented by the customization, scalability, and specific processes (e.g., diffusion bonding, powder consolidation) they can provide.

Market Segmentation and Sub-Segmentation Included are:

By Offering

- Systems
- Services

Ву Туре

- Hot Isostatic Pressing
- Cold Isostatic Pressing

By Capacity

- Small-sized HIP
- Medium-sized HIP
- Large-sized HIP

By Process Type

- Dry bag pressing
- Wet bag pressing

By End-Use

- Medical
- Electronics & Semiconductor
- Automotive
- Aerospace & Defense
- Manufacturing
- Energy & Power

• Oil & Gas

Others

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Regional Analysis

Asia-Pacific

Asia-Pacific dominated the market in 2023, accounting for over 36% of the market share. The region's growth is driven by the presence of leading manufacturers in countries like China, Japan, and South Korea. Rapid industrialization, coupled with increasing investments in aerospace, automotive, and healthcare sectors, is fueling the demand for isostatic pressing solutions. The adoption of advanced manufacturing techniques and the expansion of semiconductor fabrication centers further contribute to regional growth.

North America

North America is projected to be the fastest-growing region, driven by advancements in the aerospace and automotive industries. The U.S., being a hub for aerospace manufacturing and innovation, significantly contributes to the regional market. The growing adoption of 3D printing and HIP in the production of high-performance components is further accelerating market growth. Government initiatives such as increased funding for defense and aerospace projects are also propelling the demand for isostatic pressing.

Recent Developments

• May 2024:Quintus Technologies announced the launch of a new HIP system with advanced cooling technology to enhance the production efficiency of aerospace components. This innovation aims to meet the increasing demand for high-performance materials in the aerospace industry.

• March 2024:Bodycote PLC expanded its HIP capacity in Europe by opening a new facility in Germany. The facility is equipped with state-of-the-art technology to cater to the growing demand for HIP services in the region.

• January 2024:EPSI introduced a new CIP system designed for the production of complex ceramic components. The system features advanced automation and energy-efficient processes, aligning with the industry's focus on sustainability and cost-effectiveness.

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