

Turbo Expanders Market Report by Loading Devices (Compressor, Generator, Hydraulic Brake), Application (Hydrocarbon Turboexpanders, Air Separation Turboexpanders, and Others), End Use Industry (Oil and Gas, Power Generation, Energy Recovery, and Others), and Region 2024-2032

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Abstracts

The global turbo expanders market size reached US\$ 356.2 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 622.1 Million by 2032, exhibiting a growth rate (CAGR) of 6.2% during 2024-2032.

Turbo expanders are centrifugal or axial flow turbines through which a high-pressure gas drives a generator or compressor. They are widely utilized in the gas supply chain, energy recovery, and power generation during natural gas processing and petrochemical applications. They are also used in industrial processes to produce refrigerants for the liquefaction of gases, such as oxygen, nitrogen, and helium. Presently, several manufacturers are offering turbo expanders incorporated with computer-aided tools, such as finite-element analyses (FEA), computer numerical control (CNC) machining, and computational fluid dynamics (CFD). These turbo expanders offer enhanced design and key features, such as compressor stage, maximized efficiency, and improved reliability.

Turbo Expanders Market Trends:

In oil and gas facilities, turbo expander systems are extensively utilized in dew-point control (DPC), nitrogen rejection, pressure let-down, and fluid catalytic cracking (FCC). They optimize power generation potential and efficiency and facilitate the production of

natural gas liquids (NGL) by removing ethane and heavy hydrocarbons like gasoline blends from natural gas. This, in confluence with surging energy needs and rapid rise in the installation of turbo expanders in offshore oil production sites, represents one of the key factors fueling the market growth. Apart from this, leading manufacturers are using sophisticated techniques to develop modern multilink turbo expanders that can adjust inlet guide vanes (IGVs) for precision flow control and minimal actuating forces. Furthermore, due to a shift in consumer preferences towards carbon-neutrality and economic efficiency, these manufacturers are offering customized products for complex industrial processes, which is driving the market. These products can be used in a broad range of applications, such as nitric acid, terephthalic acid, gasification, and blast furnace top gas recovery plants.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global turbo expanders market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on loading devices, application, and end use industry.

Breakup by Loading Devices:

Compressor

Generator

Hydraulic Brake

Breakup by Application:

Hydrocarbon Turboexpanders

Air Separation Turboexpanders

Others

Breakup by End Use Industry:

Oil and Gas

Power Generation

Energy Recovery

Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Air Products & Chemicals Inc., Atlas Copco, Baker Hughes Company (General Electric Company), Blair Engineering, Elliott Group (Ebara Corporation), HangZhou Oxygen Plant Group, LA Turbine (Chart Industries Inc.), PBS Group a. s., R&D Dynamics Corporation, Sichuan Air Separation Plant (Group) Co. Ltd., Suzhou Sida Cryogenic Equipment Co. Ltd. and Turbogaz.

Key Questions Answered in This Report:

How has the global turbo expanders market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global turbo expanders market?

What are the key regional markets?

What is the breakup of the market based on the loading devices?

What is the breakup of the market based on the application?

What is the breakup of the market based on the end use industry?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global turbo expanders market and who are the key players?

What is the degree of competition in the industry?

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