General Catalog for Compressed Air, Gas and Vacuum Solutions

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Sustainable Productivity

Atlas Copco

FOR 140 YEARS, WE HAVE INCREASED OUR CUSTOMER'S PRODUCTIVITY

Atlas Copco is an industrial group with world-leading position in products and services that deliver sustainable productivity. The company was founded in Sweden in 1873, celebrating 140 years of successful business in 2013.

Today, we have sale and service operations in more than 170 countries. The voices of our customers around the world are very important to us. By listening to customers we learn about what we do well and what we need to improve.

Each year, we open new customer centers in emerging markets, always with a long-term commitment to local customers and partners.

Atlas Copco Compressor Technique provides air and gas compressors, expanders, air and gas treatment equipment as well as air management systems and service for industrial applications.

In this catalogue you will find our comprehensive offering of energy efficient compressed air, gas and vacuum solutions to help improve customers sustainable productivity.

CENTRIFUGAL COMPRESSORS, EXPANDERS AND PUMPS

We bring innovative drive and decades of engineering experience to the industrial equipment we produce. Our compressors, expanders and cryogenic pumps support a wide range of markets and applications across the globe.

Centrifugal Turbomachinery and Cryogenic Pumps

Atlas Copco turbocompressors, expansion turbines and cryogenic pumps are found at the heart of industries that keep the world in motion: oil and gas, industrial gases, and power generation. Our innovative compression and pump designs deliver top performance in an efficient, compact package and ensure decades of reliable use under some of the most demanding conditions.

Centrifugal Air and Gas Compressors

Atlas Copco centrifugal compressors are built using cutting-edge aerodynamic technology and proven, heavy-duty components. They deliver the high flow rates and pressure levels necessary for such important processes as plant air in petrochemical or industrial gas installations.

Utilizing multi-stage compression with as many as eight stages on a single gearbox, our centrifugal gas compressors can be configured to handle combined processes in one cycle – such as processing different gases simultaneously – and they supply the high flow and pressure levels that might otherwise require additional machinery. Our centrifugal gas compressors can handle flow volumes from 250-400 000 m^3/h* and generate pressures up to 200 bar.

Exclusive impeller design and control options, such as variable inlet- and diffuser-guide vanes, ensure that pressure and flow rates remain constant even as factors such as ambient temperature or back pressure change.

Likewise, when the ability to precisely control gas volume is key – in applications such as fuel gas boosting for gas turbines – our speed controls deliver the crucial large turndown range required.

Expansion Turbines (Turboexpanders)

Whether used to liquefy natural gas for transport, create cryogenic conditions for air separation, or turn excess heat into valuable energy, the key to turboexpander performance is thermal efficiency.

Atlas Copco's proven impeller designs help generate superb cooling capacity and make these impellers the most reliable on the market. Specially-developed insulation on the expander casing and at other key areas, along with tailored shaft seals ensure that both the cold temperatures and the gases vital to your process remain within the system.

Our turboexpanders are available in compressor-loaded, integrally-geared generator-loaded, generator-loaded or hydraulic-brake-loaded configurations. In power generation applications, they can deliver up to 25 MW per unit.

Cryogenic Pumps

Atlas Copco's full line of cryogenic pumps cover the complete liquefied natural gas (LNG) and liquefied petroleum gas (LPG) value chain from liquefaction through regasification and play crucial roles in petrochemical plants and refineries.

Backed up by more than 50 years of innovation in the field, Atlas Copco's newest line of third-generation cryogenic pumps offers distinct advantages over nearly all other competitive systems sold today.

Thanks to their cutting-edge design, Atlas Copco cryogenic pumps deliver the industry's smallest in-tank pump column size and the lowest Net Positive Suction Head (NPSH) values.

The increased usable tank storage capacity this affords, along with efficiency levels that are 5-15% greater than the industry average, translates into higher plant revenues.

Our pumps are available in flow ranges of 10 m^3/h (5.89 cfm) to 3,000 m^3/h (1767 cfm) and can be used in a suction pot, mounted in-tank or in a marine/fixed configuration.

**Based on flows rate in the compressor technique catalogue which is m^3/min, here the rating would be 4.2 to 6666 m^3/min, and for the British imperial system, it would be 147.25 - 235600 cfm*

Centrifugal compressors for gas and air applications, up to 200 bar discharge pressure, driver power up to 40 MW

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Centrifugal compressors for gas & air applications, up to 200 bar discharge pressure, driver power up to 40 MW

GT Series

Driven by Integral Gear technology, Atlas Copco's GT Series provides maximum compressor efficiency and reliability. This ensures sustainable productivity in processes across dozens of industries and applications. Our GT compressors are present from the steel mills of China to complex oil and gas operations on the world's Seven Seas – and beyond. The GT Series handles flow volumes up to 400000 m^3/h (235600 cfm), in configurations up to eight stages. It handles all gases.

CUSTOMER BENEFITS

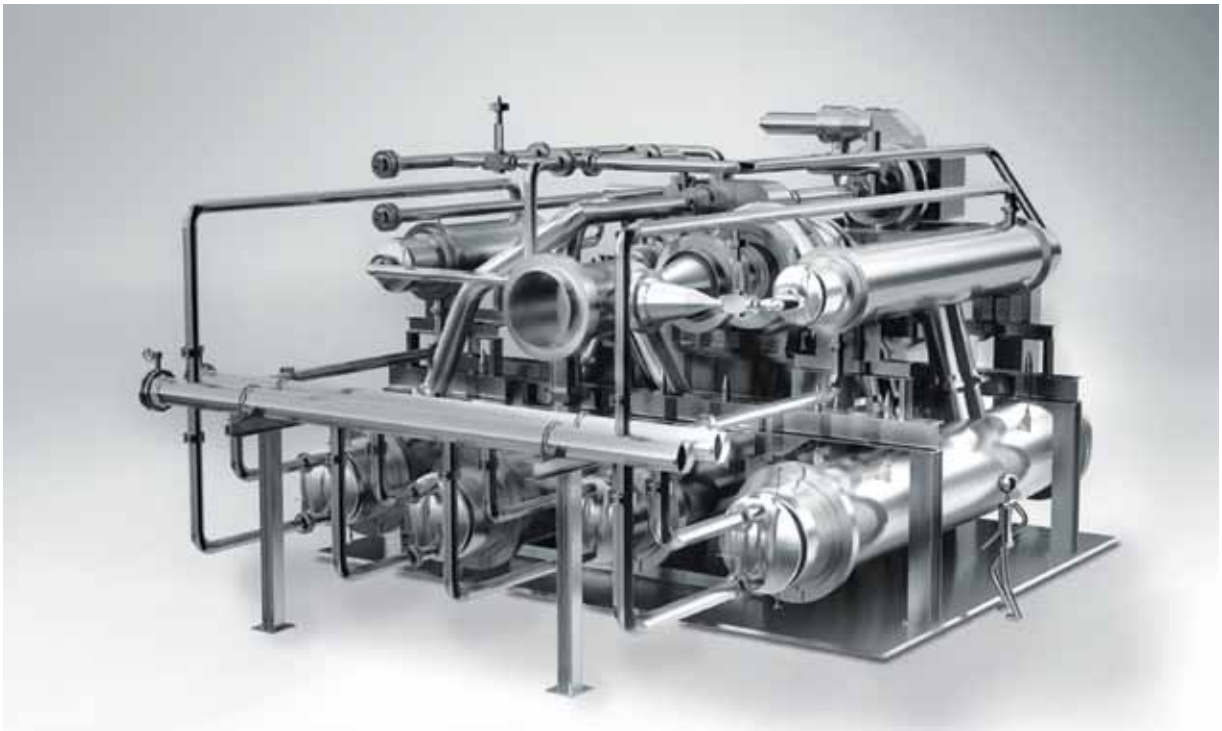
• **Customization –** From impeller design to packaging options and diffuser, GT Series compressors provide a vast range of customization options to meet your customer requirements and improve your process.

• **Regulatory compliance –** The GT Series is manufactured according to the rigorous standards of the American Petroleum Institute (API), namely API 614, Chapter 3 (gas); oil systems according to API 614.

• **Small footprint –** The compact package design reduces the compressor's footprint.

• **Maximum reliability –** This is a crucial aspect particularly in the air separation industry and oil & gas applications (marine and offshore).

• **Maximum compressor efficiency,** with one main focus being on power optimization of your process.



Centrifugal compressors for air and nitrogen, discharge pressures up to 30 bar

H Series

The H-Series centrifugal compressor marks the culmination of more than 100 years of Atlas Copco experience in air compression. Anchored in innovative engineering and manufacturing techniques, this compressor combines premier technology for the delivery of oil-free compressed air. The H-Series serves the requirements of many industries, from air separation, chemical, petrochemical, process air etc. It is widely known and accepted as an efficient, dependable and cost-effective compressor solution that comes as a standard package but also fully engineered to API specifications. The H-Series handles flow volumes up to 42500 m^3/h (25032.5 cfm) in multi-stage configurations and 85000 m^3/h (50065 cfm) for single-stage compressors.

CUSTOMER BENEFITS

- **Optimized performance** – Quality-engineered components optimize the performance and reliability of your process.
- **Maximum efficiency** thanks to the exclusive H-Series impeller design.
- **Customer-driven product** that fully meets your requirements in a broad range of industries and applications.
- **Energy savings** due to deployment of adjustable inlet guide vanes.
- **Localized packaging possible.**

Direct-driven Centrifugal turbocompressors polyethylene and polypropylene

T Series

Drawing from Atlas Copco's extensive experience for complex applications, the T-Series compressor is used in some of the most challenging processes. For more than two decades the T-Series compressor has been at the heart of demanding, high-profile downstream petrochemical applications worldwide, from Russia to the Middle East, and beyond. The T-Series handles discharge pressures up to 40 bar (580.2 psi) and flow volumes up to 50000 m^3/h. (29450 cfm)

CUSTOMER BENEFITS

- **Maximum compressor efficiency and reliability.**

- **Superior efficiency** thanks to the unique design and position of the inlet guide vane in connection with the closed impeller.

- **Regulatory compliance –** The T-Series is manufactured according to the rigorous standards of the American Petroleum Institute (API, namely API 617, Chapter 3 (gas); oil systems according to API 614.

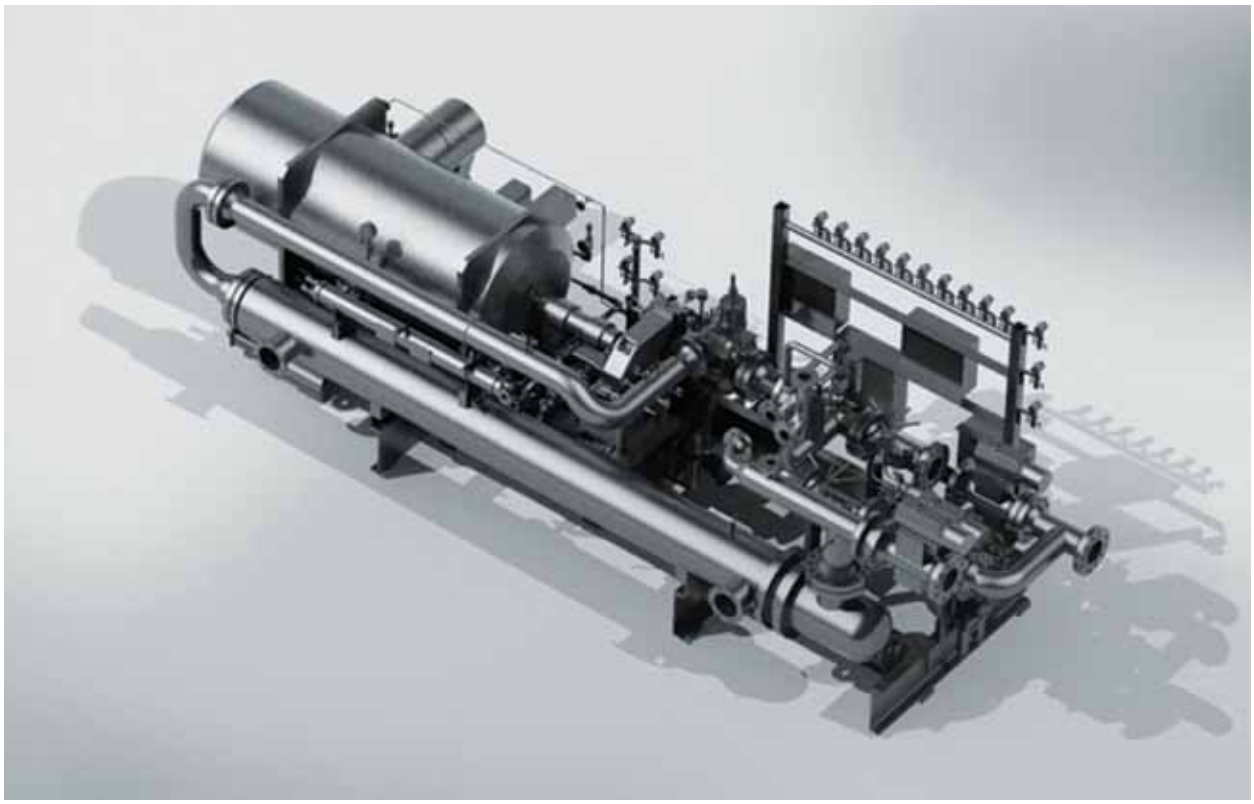
Centrifugal compressors for air and gas applications, up to 70 bar

SC Series

Featuring integral gear technology at the heart of the machine, the SC-Series compressor offers reliable and efficient service across dozens of applications in air separation as well as in the gas and process industries. The SC-Series is a reliable, cost-effective compressor solution and ensures that customers have sustainable productivity in their process. The SC-Series handles flow volumes up to 110000 m^3/h (64790 cfm) at suction temperatures ranging from -40°C/-40°F to 200°C/392°F. It handles all gases.

CUSTOMER BENEFITS

- **Easy installation –** Compact packaging design reduces installation costs and footprint.
- **High efficiency –** Power savings in all operation modes and superior turndown rates result in maximum efficiency.
- **Regulatory compliance –** The SC-Series is manufactured according to the rigorous standards of the American Petroleum Institute (API), namely API 617, Chapter 3 (gas); oil systems according to API 614.



Integrally geared centrifugal compressor for gas and air, up to 70 bar

TP Series

Driven by integral gear technology, Atlas Copco's TP centrifugal gas compressor offers maximum reliability and efficiency for dozens of air and gas applications. It provides cost-effective, sustainable service in facilities all over the world. TP-Series compressors are known for their dependable and innovative service, as well as their adherence to API specifications. The TP-Series handles flow volumes up to 20000 m^3/h (11780 cfm) at suction temperatures ranging from -40°C/-40°F to 200°C/392°F. It handles all gases.

CUSTOMER BENEFITS

- **Small footprint –** Installation costs and occupied floor space are reduced by a compact packaging design.
- **Maximum efficiency in impeller design.**
- **Customizable –** Option to use a custom combination of standardized components.
- **Flexibility –** Adjustable inlet guide vanes offer a wide operating range and excellent partial load performance.

Features of Turbocompressor Products

Features	GT	H	T	SC	TP
Suction pressure (max.)	80 bar(a)	1.4 bar(a) (8 bar)*	40 bar(a)	70 bar(a)	50 bar(a)
	1160.3 psi	20.3 psi	580.2 psi	797.7 psi	797.7 psi
Discharge pressure (max.)	200 bar(a)	30 bar(a)	40 bar(a)	70 bar(a)	70 bar(a)
	2900.8 psi	435.1 psi	580.2 psi	797.7 psi	797.7 psi
Suction temperature	-200 to 200°C	-40 to 50°C	-40 to 150°C	-40 to 200°C	-40 to 200°C
	-328 to 392°F	-20.2 to 122°F	-40 to 302°F	-148 to 212°F	-148 to 212°F
Effective inlet-flow range	250 to 400000 m^3/h	3500 to 42500 (85000**) m^3/h	15000 to 50000 m^3/h	250 to 110000 m^3/h	250 to 20000 m^3/h
	147.25 to 235600 cfm	2061.5 to 25032.5 cfm	8835 to 29450 cfm	147.25 to 64790 cfm	147.25 to 11780 cfm
Maximum No. of stages	1 - 8	1 - 4	1	1	2 - 5
Gases handled	All gases	Air, nitrogen	Polyethylene, polypropylene	All gases	All gases
Impeller types	Open / closed	Open	Open	Open	Open
Shaft / impeller connection	Hirth serration	Microspline	Hirth serration	Microspline	Microspline
Seals					
Labyrinth	●	●		●	●
Carbon ring	●	●		●	●
Dry-gas seal	●		●	●	●
Capacity / pressure control					
Variable inlet-guide vanes (IGV)	●	●	●	●	●
Variable diffuser-guide vanes (DGV)	●	●		●	
Variable speed	●		●	●	●
Inlet throttle	●	●		●	●
API	672 / 617	672	617	672 / 617	672 / 617
Axial thrust compensation	High-speed axial bearings or thrust collar	High-speed axial bearings	High-speed axial bearings	High-speed axial bearings	High-speed axial bearings
Oil system	Manufacturer's standard or API 614	Manufacturer's standard or API 614	API 614	Manufacturer's standard or API 614	Manufacturer's standard or API 614
Coupling	Dry	Dry	Dry	Dry	Dry
Test code	VDI2045 / ASME PTC10	VDI2045 / ASME PTC10	VDI2045 / ASME PTC10	VDI2045 / ASME PTC10	VDI2045 / ASME PTC10

** H-booster on request*
*** single stage compressors*

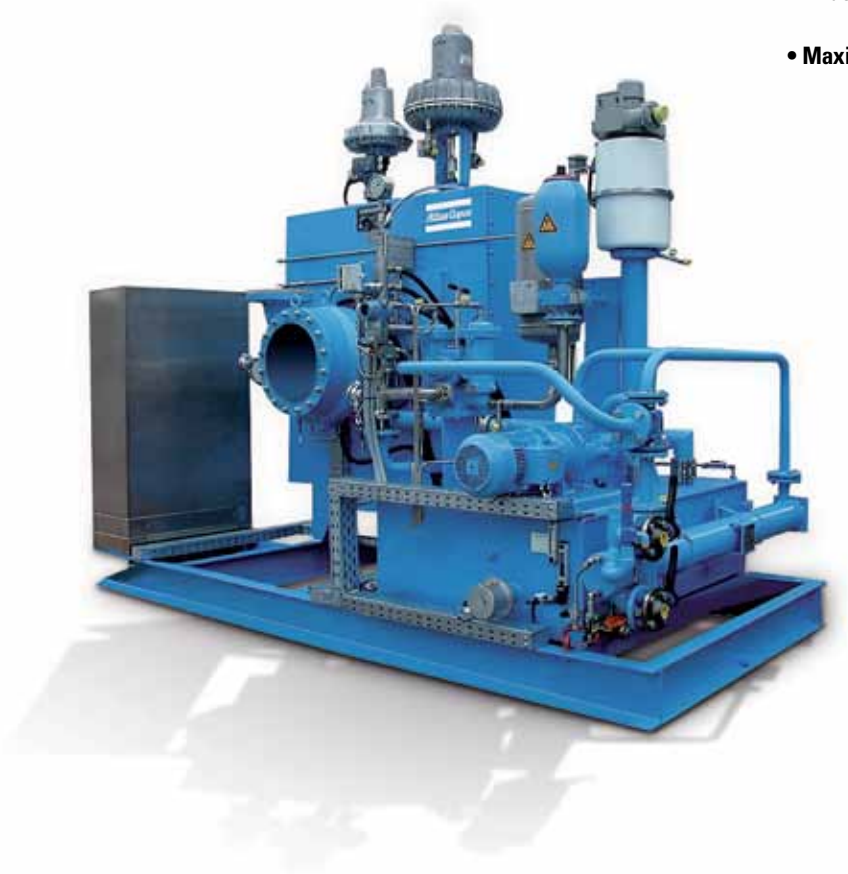
Integrally-geared turbo expanders for air applications, up to 4,000 kW / 70 bar

ETB, ETG, ETF Series

Atlas Copco's turbo expander solutions for the air separation market ensure smooth process operations in applications such as cryogenic expansion, steel and electronics. They maximize cold power in plants, while at the same time providing simple installation, operation and maintenance. Atlas Copco also provides compressors for air separation plants, to give you a complete portfolio of solutions in this market.

CUSTOMER BENEFITS

- **Customized solutions**
- **Maximum efficiency**
- **Minimized energy consumption**
- **Superior cooling capacity in cryogenic processes**
- **Robust construction**
- **Proven impeller design to precisely meet customer needs**
- **Wide operational range**
- **Maximum reliability in turboexpander performance**



Features	ETB, ETG, ETF Series	
Suction pressure (max.)	160 bar(a)	2320.6 psi
Suction temperature	-220 to 510 °C	-364 to 950 °F
Maximum No. of stages	1 - 4	1 - 4
Gases handled	All industrial gases and hydrocarbon gas mixtures, including condensing streams	All industrial gases and hydrocarbon gas mixtures, including condensing streams

Radial inflow expansion turbines (turbo expanders)

EC, ECM, ECMi

Atlas Copco's turboexpanders convert the internal energy available in a gas stream into useful work by lowering its pressure, thereby producing cooling and shaft power. Turbo expanders are used to produce refrigeration or recover power for petrochemical hydrocarbon processing plants. They typically drive a single-stage, centrifugal compressor, with both the expander and compressor optimized for the process duty. These custom engineered expander compressors are designed and manufactured to ensure the highest reliability and quality to meet your specific specifications. Incorporating the latest technology, their aerodynamic designs maximize machinery performance without sacrificing dependability. Hydrocarbon applications include LPG, NGL, DPC, LNG and nitrogen rejection. Chemical/ petrochemical applications include ethylene olefin recovery, ammonia purification, carbon monoxide purification, propane dehydrogenation, and hydrogen recovery.

CUSTOMER BENEFITS

• **Custom engineered solutions –** Expander compressors are designed specifically to customer specifications and unique process requirements.

• **Ultra-high efficiency –** Turbo expanders provide high efficiency refrigeration or power recovery.

• **Robust construction –** Expander compressors are designed for offshore/onshore, outdoor unprotected and attended or unattended sites. They are custom designed for desert, tropical and ambient temperatures as well as hazardous areas (Division 1/Zone 1, Division 2/ Zone 2).

• **Highest quality design and production systems –** ISO 19001, 14001 and 18001 quality certification, all machines meet or exceed industry (API 617, API 614, API 670 and ANSI B31.3) and international standards (IEC, NEC, ASME, BS5500).

• **Long-lasting reliable performance –** Many of our expander compressors are in service for 20 years without a shutdown.

Features	EC, ECM, ECMi	
Suction pressure (max.)	200 bar(a)	2900.8 psi
Suction temperature	-220 to 200°C	-364 to 392°F
Maximum No. of stages	1	1
Gases handled	All industrial gases and hydrocarbon gas mixtures, including condensing streams	All industrial gases and hydrocarbon gas mixtures, including condensing streams

Integrally geared expander generators for industrial applications or energy recovery

EG, EGi

Whether you want to produce electricity as a by-product of an industrial process, from a geothermal resource, from waste heat, or recover power in a pressure letdown application, Atlas Copco's expander generators are a reliable solution for energy recovery and electrical power production. Utilizing the Organic Rankine Cycle (ORC), typical energy recovery applications include geothermal, waste heat recovery, pressure letdown and cold energy recovery. The speed reduction gearbox features a parallel shaft and integral gearbox. Driven by our integral gear expertise, the expander generators can be configured with one to four stages on a single gearbox to achieve the lowest cost per kilowatt power-train solution. Atlas Copco provides partial or complete solutions, from the core expander to the complete system.

CUSTOMER BENEFITS

- **Built to last –** Their robust construction can withstand rough treatment over a long lifetime of operation in the harshest of work environments.
- **Reliability Centered Maintenance (RCM) –** Maintenance system based on statistical data and experience.
- **Power –** Power generating ranges up to 25 MW per expander stages.
- **Unique design –** Single or multi-stage turbine design mounted on the same integral gearbox.
- **High efficiency –** Maximum energy recovery efficiency and plant availability.
- **Complete solution –** Partnerships with expert companies for complete cycle design/complete recover solutions.
- **Highest quality design and production systems –** ISO 19001, 14001 and 18001 quality certification, all machines meet or exceed industry (API 617, API 614, API 670 and ANSI B31.3) and international standards (IEC, NEC, ASME, BS5500).

Features	EG, EGi	
Suction pressure (max.)	200 bar(a)	2900.8 psi
Suction temperature	-220 to 300°C	-364 to 572°F
Maximum No. of stages	1 - 4	1 - 4
Gases handled	All industrial gases and hydrocarbon gas mixtures, including condensing streams	All industrial gases and hydrocarbon gas mixtures, including condensing streams

Low Pressure Vertical Turbine Pump

Type TA & TX

Atlas Copco Gas and Process Type TA and TX Vertical Turbine Pumps are equipped with Atlas Copco's patented HyPerInducer®, which offers the lowest Net Positive Suction Head (NPSH) in the industry. This alone increases the active volume of the storage tanks, creating more accessible inventory. The use of the vertical turbine bowl diffusers completely eliminates rotating stalls and improves pump efficiency by up to 86%. Multi-stage designs are created by adding a greater amount of control to each set speed. This allows for lower tip speeds and less rotating mass. The Type TA and TX Turbine flow handles up to 3000 m^3/hr and handles fluid temperatures ranging from -196 °C/-320 °F to 45 °C/ 113 °F.

CUSTOMER BENEFITS

- **Upto 86% efficiency.**
- **Hydraulic designs with higher specific speeds, resulting in higher efficiency.**
- **Easy maintenance.**
- **An active thrust balance system for increased bearing life.**

Features	Type TA & TX	
Flow	Up to 3000 m^3/hr	1765 cfm
Head	Up to 350 m	Up to 350 m
Fluid Temp.	-196 °C to 45 °C	-320 to 113° F
Motor	Submersible, 50 & 60 Hz designs, variable frequency drive (VFD), up to 6600 volts	Submersible, 50 & 60 Hz designs, variable frequency drive (VFD), up to 6600 volts
Gases handled	all gases	all gases

Process Radial Diffuser Pump – RD

Versatile Pump Handling Multiple Applications

Atlas Copco Gas and Process offers a full range of process pumps able to handle a multitude of different applications, including the transfer of hydrocarbon liquids. The versatility of these pumps is exhibited by their use in liquefaction plants, petrochemical plants, refineries, and terminals. They can be configured in a multitude of ways, including pot-mounted, in-tank, and fixed configuration. When combined with close-coupled stage/designs, the large diameter of the pump shaft ensures dimensional stability and, ultimately, peace of mind. The pump's robust rotor shaft allows for easy maintenance and is equipped with multi-stage vane island diffusers providing constant head rise to shut-off and significantly increased MTBO. The radial diffuser pump's handles up to 250 m^3/hr and fluid temperatures ranging from -196 °C/-320 °F to 45 °C/113 °F.

CUSTOMER BENEFITS

- **High versatility –** can be used in a number of different plants and terminals.
- **Easy maintenance.**
- **Ability to handle high vapor fractions with Atlas Copco's patented HyPerInducer®.**
- **Dependable –** can be paired with close coupled stage/designs.

Features	Versatile Pump Handling Multiple Applications	
Size	Up to 200 kW	Up to 200 kW
Capacity	Up to 250 m^3/hr	117.7 cfm
Head	Up to 1000 m	Up to 1000 m
Fluid Temp.	-196 °C to 45 °C	-320 to 113 ° F
Motor	Low voltage, 50 & 60 Hz or variable speed	Low voltage, 50 & 60 Hz or variable speed

High Pressure Continuous Crossover
Type CC

With up to 86% efficiency, the Atlas Copco Gas and Process' High-Pressure Type CC pump is among the most efficient on the market. Because these pumps can represent a large percentage of an LNG terminal's electric power usage, increased efficiency significantly cuts costs. Equipped with multi-stage continuous crossover diffusers, the Type CC pump features constant head rise to shut-off.

Reliability represents an additional hallmark of Type CC pumps. The active thrust balance system increases bearing life, and a robust rotor shaft allows for easy maintenance. The Type CC pump handles up to 600 m^3/hr and fluid temperatures ranging from -196 °C/-320 °F to 45 °C/113 °F.

CUSTOMER BENEFITS

- **High efficiency –** higher specific speed hydraulic design.
- **Easy maintenance.**
- **Ability to handle high vapour fractions with Atlas Copco's patented HyPerInducer®**
- **Constant diameter pump shaft –** ensures dimensional stability when combined with close coupled stage/designs.

Features	Versatile Pump Handling Multiple Applications	
Size	Up to 3000 kW	Up to 3000 kW
Capacity	Up to 600 m^3/hr	353.1 cfm
Head	Up to 2500 m	Up to 2500 m
Fluid Temp.	-196 °C to 45 °C	-320 to 113 °F
Pump Ns	1250, 1600	1250, 1600
Motor	50 & 60 Hz designs, variable speed, up to 6600 volts variable frequency drive (VFD)	50 & 60 Hz designs, variable speed, up to 6600 volts variable frequency drive (VFD)

Serving the oil and gas industry with energy efficient solutions

Discover the new Atlas Copco Kiosk app

You can download this app via the App store (search for "Atlas Copco Kiosk").
Once installed, you will see all the leaflets lined up on a bookshelf. You can choose which leaflets you download and push notifications keep you up to date of the latest versions. Choose your language in the main screen to find translations. Once downloaded, an iLeaflet remains available offline.

Available on the App Store

www.appstore.com/AtlasCopcoKiosk

Please note the AppStore will only work on iPad.

Atlas Copco