Side Channel Blowers – Designed in Germany. Manufactured in India.

Ammonite Energy Tech designs and manufactures side channel blowers (also known as regenerative blowers) engineered for reliable oil-free pressure and vacuum applications across industries. Our blowers are designed in Germany, following proven European aerodynamic and mechanical engineering principles, and manufactured in India with precision machining, stringent quality control, and application-focused customization.

Built on non-contact compression technology, ATE side channel blowers offer long operational life, low maintenance, stable airflow, and energy-efficient performance for continuous industrial duty.

ATE side channel blowers are widely used in STP & ETP plants, pneumatic conveying systems, chemical & pharmaceutical industries, food processing, cement plants, power generation, aquaculture, centralized vacuum systems, and OEM machinery.

WHY AMMONITE SIDE CHANNEL BLOWERS

- Designed in Germany for optimized airflow & efficiency
- Manufactured in India for cost-effective, robust industrial use
- 100% oil-free, dry operation
- Continuous duty (S1) rated
- Low noise & vibration
- Compact footprint with high output
- Suitable for pressure, vacuum & combined duty

PRODUCT RANGE OVERVIEW

Ammonite Energy Tech offers a complete range of regenerative side channel blowers to meet varying airflow and pressure requirements:

- Single Stage Side Channel Blowers
- Double Stage Side Channel Blowers
- Ultra-High Pressure Side Channel Blowers

Each series is available in multiple power ratings, airflow capacities, and pressure/vacuum ranges, suitable for both standard and critical industrial applications.

SINGLE STAGE SIDE CHANNEL BLOWERS

High Airflow | Moderate Pressure & Vacuum

Single stage side channel blowers are designed for applications requiring higher air volume with moderate pressure or vacuum.

Technical Range

- Power: 0.25 kW to 18.5 kW
- Max Air Flow: 80 – 1370 m^3/hr
- Rated Vacuum: up to -360 mbar
- Rated Pressure: up to 460 mbar
- Noise Level: 53 – 75 dB(A)

Typical Applications

- Pneumatic conveying (light & medium materials)
- Aeration systems
- Vacuum holding & lifting
- Drying & cooling
- Centralized vacuum cleaning

DOUBLE STAGE SIDE CHANNEL BLOWERS

Higher Pressure & Deep Vacuum Performance

Double stage blowers pass air through two regenerative stages, delivering higher pressure and stronger vacuum.

Technical Range

- Power: 0.7 kW to 25 kW
- Max Air Flow: 88 – 2050 m^3/hr
- Rated Vacuum: up to -450 mbar
- Rated Pressure: up to 600 mbar
- Noise Level: 55 – 75 dB(A)

Typical Applications

- Dense pneumatic conveying
- Filter bed agitation
- Chemical & fertilizer plants
- Cement blending, aeration & fluidization

- Power generation systems

ULTRA-HIGH PRESSURE SIDE CHANNEL BLOWERS

Extreme Pressure & Vacuum Applications

Ultra-high pressure blowers are engineered for specialized industrial processes demanding high pressure or deep vacuum.

Technical Range

- Power: 0.81 kW to 7.5 kW
- Rated Vacuum: up to -730 mbar
- Rated Pressure: up to 1040 mbar

Typical Applications

- Pressurization of high-altitude chambers
- Boosting or evacuation of gases
- Glass industry air blowing
- Electroplating plants
- Specialized chemical processes

DESIGN & ENGINEERING PHILOSOPHY

Designed in Germany

ATE side channel blowers are designed in Germany, following European engineering standards focused on:

- Optimized impeller aerodynamics
- High volumetric efficiency
- Low thermal rise
- Noise reduction through airflow geometry
- Long bearing life & vibration control

The design emphasizes non-contact compression, ensuring oil-free operation and minimal wear even during continuous operation.

MANUFACTURING & QUALITY

Manufactured in India

All Ammonite Energy Tech blowers are manufactured in India under strict quality systems to ensure reliability and consistency.

Manufacturing Highlights

- Precision-machined aluminium die-cast housings
- Dynamically balanced impellers
- Sealed, maintenance-free bearings
- Controlled assembly & inspection processes
- Application-specific testing before d
- ispatch

Our Indian manufacturing facility enables:

- Faster delivery timelines
- Competitive pricing
- Customization for OEM & project requirements
- Strong after-sales support availability

KEY DESIGN FEATURES

- Aluminium die-cast impeller & casing
- Non-contact compression (no oil, no friction)
- Sealed bearings – no lubrication required
- Compact & space-saving design
- Horizontal & vertical mounting options
- Suitable for indoor & outdoor installations

INDUSTRIES & APPLICATIONS

Widely Used Across Industrial Sectors

Water & Wastewater

- STP / ETP aeration
- Sewage & effluent treatment
- Filter bed agitation

Chemical, Pharma & Food

- Pneumatic conveying
- Air agitation of chemical solutions
- Food processing & pharmaceutical air handling

Cement & Power

- Cement blending & fluidization
- Pneumatic conveying of cement & chemicals
- Power generation plants

Sugar & Process Industries

- Sulphation process (sugar plants)
- Refineries, breweries & distilleries

Manufacturing & Utilities

- Metallurgy
- Textile industry
- Paper bulk handling
- Soap & detergent plants

Special & Utility Applications

- Centralized vacuum cleaning
- Pressurization chambers
- Glass industry air blowing
- Electroplating plants
- Ice plants & lighting manufacturing
- Fisheries, hatcheries & aquaculture
- Transport vehicles

SERVICE & SUPPORT

End-to-End Support by Ammonite Energy Tech

- Blower selection & sizing assistance
- OEM & system integrator support
- Installation & commissioning
- Preventive maintenance
- Breakdown service & repairs
- Genuine spare parts supply

Our service network supports customers across major industrial regions in India.

WHY CHOOSE AMMONITE ENERGY TECH

✔ Designed in Germany, manufactured in India
✔ Proven performance across industries
✔ Strong technical & after-sales support
✔ Cost-effective alternative to imported blowers
✔ Customization for OEMs & projects

CALL TO ACTION

Need Help Selecting the Right Side Channel Blower?

📞 Call / WhatsApp: +91 63827 31728
📧 Email: ammoniteenergytech@gmail.com

👉 *Request a Quote | Get Technical Assistance | OEM Support*

HOW IT WORKS

Inside the Design of Ammonite Side Channel Blowers

Ammonite Energy Tech side channel blowers operate on the principle of **contact-free, regenerative compression**, ensuring oil-free, low-maintenance, and highly reliable performance.

At the heart of the blower is a **precision-machined impeller**, mounted directly on the motor shaft. This impeller rotates at high speed inside a **specially contoured side channel**, creating controlled airflow movement through centrifugal force.

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1. Air Intake & Entry into the Side Channel

Ambient air or process gas enters the blower through the **inlet port** and is guided into the **side channel**, a circular passage integrated into the blower housing.

The design of this channel is critical—it is engineered to maintain **uniform airflow velocity** and minimize turbulence.

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2. Impeller Rotation & Kinetic Energy Transfer

As the impeller rotates, its blades **accelerate the air radially outward** due to centrifugal force.
Each blade pass transfers **kinetic energy** to the air, increasing its velocity.

Unlike positive displacement machines, there is **no physical contact** between rotating and stationary components—eliminating wear, oil contamination, and frictional losses.

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3. Regenerative Compression Process

Once accelerated, the air is guided back into the side channel, where it **re-enters the impeller blade path multiple times** during a single revolution.

With every pass:

- Velocity energy is converted into pressure energy
- Air pressure increases incrementally
- Flow remains continuous and pulsation-free

This repeated energy regeneration is why side channel blowers are also called **regenerative blowers**.

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4. Channel Geometry & Pressure Build-Up

The side channel gradually **narrows along the airflow path**, forcing the air to compress as it progresses toward the outlet.
This geometry ensures:

- Smooth pressure rise
- Low temperature increase
- Stable airflow even under varying load conditions

In **double-stage and ultra-high-pressure models**, the air passes through **multiple regenerative stages**, significantly increasing pressure or vacuum capability without sacrificing efficiency.

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5. Discharge & Noise Control

Once the desired pressure or vacuum level is achieved, the air is discharged through the **outlet port**, typically integrated with a **silencer** to reduce noise levels.

The result is:

- Quiet operation
- Consistent pressure or vacuum
- Clean, oil-free air delivery

KEY INTERNAL DESIGN ADVANTAGES

- **Non-contact compression** – no internal wear
- **Direct-coupled impeller** – high mechanical reliability
- **Optimized impeller blade profile** – high volumetric efficiency
- **Aerodynamically shaped side channel** – reduced losses & noise
- **Sealed bearings** – maintenance-free operation
- **Low thermal rise** – suitable for continuous duty

SINGLE vs DOUBLE STAGE – INTERNAL DESIGN DIFFERENCE

Single Stage Blowers

- One regenerative airflow loop
- High airflow with moderate pressure or vacuum

Double Stage Blowers

- Two regenerative compression stages
- Higher pressure & deeper vacuum
- Ideal for demanding industrial processes

WHY THIS DESIGN MATTERS

The internal design of Ammonite side channel blowers ensures:

- Oil-free air for sensitive applications
- Long service life due to zero internal contact
- Minimal maintenance requirements
- Reliable operation in continuous industrial duty

This makes ATE side channel blowers a preferred choice for **STP/ETP plants, pneumatic conveying, chemical processing, food & pharma industries, cement plants, power generation, aquaculture, and centralized vacuum systems**.
