FIMA – where technology is naturally intelligent.

Human nature has always driven us to pursue progress based on our VISIONS. However, to turn these visions into reality, we need partners who can help us to implement our visions with specific SOLUTIONS. At FIMA we use our impressive EXPERTISE to develop intelligent, practical solutions. Customers have placed their CONFI- DENCE in our comprehensive expertise and the reliability of our products for more than 60 years.

And just as Nature is always evolving, we are constantly optimizing our technology and product range in order to become an even better partner for you.

Nature knows no compromise. Nor does our quality! As specialists in the manufacture of customized machinery in the fields of fluid dynamics and we know the importance of absolute, uncompromising quality and reliability. Demanding applications in the widest possible range of industries require maximum performance along with the efficiency that the market demands. We make no compromises in our testing procedures. As part of our quality requirements we subject all the components of our machines to 100% testing. You can always rely on FIMA products.

Nature knows no limits. We start with high standards. But high standards aren’t enough in practice – customized solutions are also required. As partners in demanding projects we use our expertise and commitment to develop innovative, effective, and sustainable solutions. Extensive research and development plus our participation in the research efforts of the German Air and Drying Technology Research Association (Forschungsgemeinschaft für Luft- und Trocknungstechnik) form both the basis of and testimony to our specialist skills and experience.

Your needs challenge our engineers and technicians to continue their quest for innovative solutions and development of new technologies.

Like nature, a successful company is continuously developing. FIMA has been a resourceful partner in the manufacture of machinery for over 60 years. We have been continuously developing and optimizing our range of products and services all this time. FIMA is now a global player in the field of customized machinery manufacture and is an effective partner for blowers, compressors, engineering and support. Our company is distinguished by our outstanding innovative ability, our visionary capacity and solution-oriented activities. Our efforts are totally dedicated to your requirements from the initial contact right through to our reliable after-sales service. And you can be sure that it will stay that way in the future.

FIMA – naturally as close as possible to our customers. We are proud of our commitment to Germany as a high-performance manufacturing base. And we will continue to develop and expand so that we’re there whenever you need us, anywhere in the world. Being close to our customers and their needs creates the innovative stimulus which makes future developments and success possible.

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1947 Repair of agricultural machinery
1955 Manufacture of hay dryers
1960 Manufacture of industrial blowers begins
1970 The range of industrial blowers is extended
1975 Manufacture of blowers for the chemical industry
1977 HP O certification to AD-Merkblatt HP O
1980 Development and manufacture of compressors starts
1990 Development of centrifugal dryers
1993 First centrifugal dryer delivered
1999 DIN ISO 9001 certification
1999 Change of ownership and name change to FIMA Maschinenbau GmbH
2002 Conclusion of “root and branch” changes in manufacture
2005 Building of a new testing field
Fluid dynamics - inspired by wind and water.

HETICO

 Turbo-Compressors

Radial Blowers

Zone-0-Blowers

Impeller and motor in the same casing. Process gas cannot escape. Also suitable for vacuum applications. Can also be supplied in an explosion-proof model.

Single- and multistage process gas and air compressors, mechanical vapor compressors. National specifications, conventional industry specifications or company specifications as well as the customer’s specific requirements are used in the design of the compressor unit.

Gas-tight and pressure resistant radial blowers to convey and compress air and process gases containing materials hazardous to the environment or with explosive compositions.

For the conveyance of explosive gases. EC Directive homologation for explosive groups IIA, IIB1, IIB2, IIB3 and IIB.
Fluid dynamics - Nature provides the principles.

Man transforms them into efficient technology. But one factor is more important than all the rest: absolutely perfect and perfectly reliable quality. Our engineers design and develop customer-specific, technically demanding complex blowers and compressors for the widest possible range of industries. FIMA specializes in solutions related to fluid flow in gaseous media including toxic and explosive gases.

Thermodynamic design
There is a wide choice of basic impeller types available for fluid flow designs. Maximum efficiency is assured by optimizing the fluid flow factors and fine-tuning to match the casing. Depending on conditions, impeller geometry is tailored to suit the type of gas and product load; in addition and if necessary, the behavior of less than ideal gases is also taken into consideration. Pressure ratios for single-stage compressors of up to 2.5 are covered by the FIMA range subject to the impeller configuration and in relation to air in the ambient conditions.

Acoustic design
Measurements using EN ISO 5136 are taken on model blowers; the results are converted to match the operating conditions on site by means of our own algorithms which are based on a modification of Bomme’s theory. They also take other sources of noise such as motors, cooling wheels and bearings into consideration.

Mechanical design
Impellers: design strengths are based on finite element design methods. The assessment of dynamic behavior uses modal analysis calculations, the results of which are verified on the original machine.

Rotor dynamics: calculation of rotor dynamics to determine rotation speeds critical for torsion and flexing take into account bearing stiffness and the damping value of the oil film in machines with plain bearings.

Casings: pressurized casings destined for the European market are classified according to the Pressure Vessel Directive and calculations made in accordance with AD 2000. Designs in accordance with the ASME design code or other codes are also regularly produced.

Explosion protection and pressure vessel construction
FIMA blowers and compressors are designed and manufactured to the very latest standards and guidelines; they are therefore ideally suited for safe use and operation in the widest possible range of applications in explosion hazard zones.

Gas filter systems
Air filters to filter class DIN EN 779 (filter classes G1 to F9), with filter materials to suit the medium being conveyed. Different models such as bag filters, conveyor filters etc. can be supplied. Mechanical dust and sand filters (cyclone separators) are also available. If needed, we also incorporate inlet silencers with integral suction filters.

MSR technology / SPS controls
Hardware and software projects, control panel construction, visualization, machine monitoring, remote monitoring, programmable controls.
Customer service – it comes naturally to us.

For more than 60 years, our customers have placed their trust in our expert partnership in the construction of customized machines incorporating fluid dynamics.

When it comes to fluid dynamics technology, we are known for our outstanding development of customer-specific solutions for industrial blowers and compressors.

Naturally, that’s not all we have to offer. Our extensive range of products and services is complemented by our committed, highly motivated after sales team.

Optimal accessibility, maximum flexibility, professional management and your satisfaction are our defined goals. We have been working with a large number of our customers for many years as an innovative problem-solver and development partner.

You want trouble-free operation and maximum efficiency from your plant and equipment? Naturally!

You expect optimal solutions, lightning-fast responses and worldwide service from your partners? Naturally!

You insist on maximum possible flexibility with consistently high quality standards? Naturally!

FIMA is the perfect partner for you. Naturally!

Highly qualified engineers and technicians provide you with an extensive range of products and services. All repair and maintenance work will be accomplished quickly and with superb quality - either on site or in our works. We provide services for FIMA products as well as for equipment made by other manufacturers - anywhere in the world.

Our specialists are dedicated to finding solutions. Regular training, their activities in the market and the practical nature of their work guarantee comprehensive expertise and state-of-the-art knowledge. Our experts also have all the latest technology and methods at their disposal for machinery diagnostics.

RMS vibration level (amplitude 1 x n)
1.07,05 before balancing
Nature can be merciless – as we are in our quality testing.

Our products are integrated in highly complex processes. We have therefore implemented a rigorous quality management system to ensure consistency and optimization of our high quality standards over the long term.

**Qualification of welders to EN 287 and welding procedure tests to EN 288 for**

- Titanium: grade 1, grade 2, grade 7
- Duplex steels, super-duplex steels
- Nickel-based alloys
- Austenitic stainless steels
- High temperature alloys (Incoloy, Inconel)
- Fine grain steels
- Carbon steels (C steels)
- Aluminum
- Brass
- Steel: coated with rubber, TFE, PFA or PVDF

**Welding processes used**

- E, MIG, MAG and TIG
- For wall thicknesses from 2 to 30 mm

**The advantages at a glance**

- Standards that apply across operational and process boundaries
- Excellent problem-solving skills
- Continuous staff training
- Security and safety through extensive documentation
FIMA testing procedures – the natural essentials of our high quality standards.

One of FIMA’s core strengths is our testing system using non-destructive materials testing and the related data evaluation. This is how we ensure the most stringent quality requirements and the consistent security and safety of our products.

Our testing procedure at a glance

Flow measurements
- Measurements to DIN 24 166 in the FIMA testing laboratory
- Machine and equipment measurements on site
- Measurements of pressure drops for equipment design

Investigation of component strength
- FEM strength calculations
- FEM modal analyses
- Determination of the causes of damage
- Design and verification of roller bearing mountings

Assessment of operating performance
- Measurement of stresses under operating conditions
- Machine diagnosis
- Vibration investigations, including FFT analyses
- Balancing on site

Acoustic measurements
- Measurements of noise level
- Noise intensity measurements

Non-destructive testing of materials and evaluation
- Ultrasonic testing
- Magnetic particle testing
- Dye penetrant testing

The advantages at a glance

- Non-destructive testing of materials and evaluation
- 100% testing of components
- Testing of all machines in the laboratory
- Performance tests up to 600 kW
- Overspeed rotational tests in the vacuum chamber

FIMA FIRST IN MACHINERY
FIMA - from Europe out into the whole world.

For further information on our agents and worldwide partners, please visit our website at www.fima.de.