mattei®
COMPRESSED AIR SINCE 1919

GAS COMPRESSORS

Rotary vane technology

THINK GREEN

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THE PRESSURE IS ON

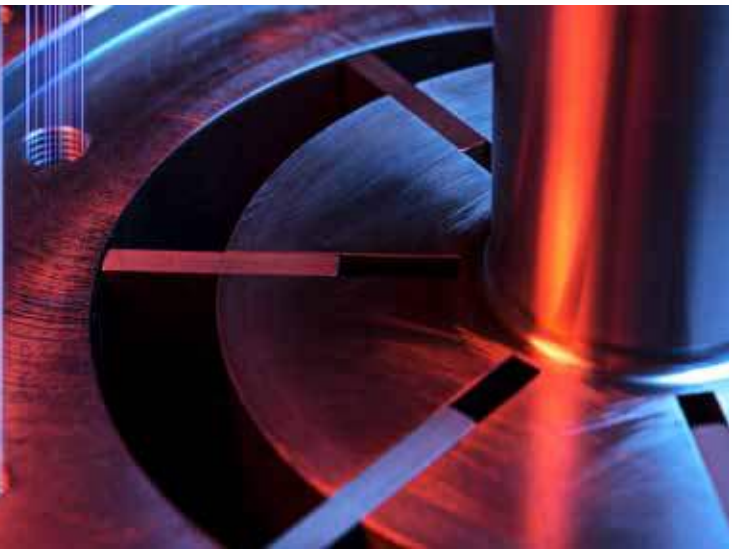
In 1958, Ing. **Enea Mattei SpA** leveraged it's 39 years of reciprocating compressor manufacturing expertise to revolutionise how air was compressed.

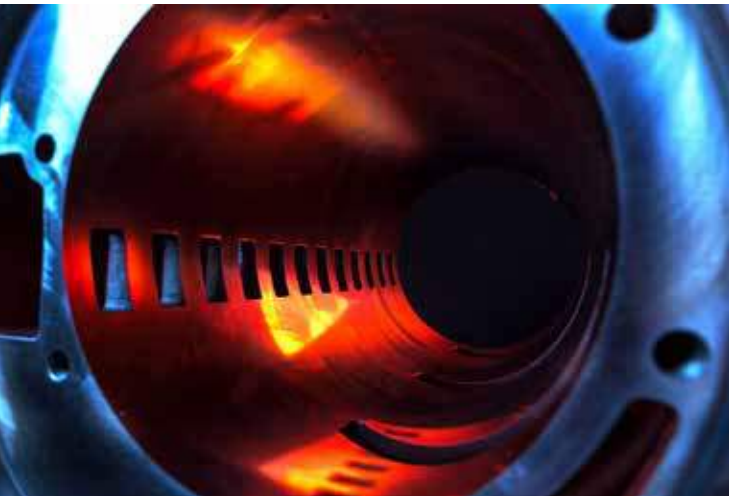
Over half-a-century later, **MATTEI** continues to turn the pressure on in gas compressor applications around the globe.

From bare compressors to packaged systems we leverage the advantages found only in our proprietary rotary vane technology to boost your bottom line. Turn to MATTEI for superior reliability, durability, efficiency, and ease of maintenance, all in a compact design ideal for localised packaging and many gas compressor applications.

Quality as an integral part of all company functions and constant improvement to all production processes guarantees the maximum level of reliability and satisfaction. This, in brief, is the value and the meaning of **Mattei's** operational philosophy. A way of approaching the market and customers that makes Mattei an absolute point of reference in the compressed gas sector.

Since 1994, **Mattei** has been operating with a Quality System certified by the DNV Institute under UNI EN ISO 9001 regulations.





MATTEI VALUE PROPOSITION

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MATTEI'S EXCEPTIONAL PERFORMANCE IS THE SIMPLICITY OF THE ROTARY VANE PRINCIPLE:

- Quiet and vibration free
- Pure rotary motion delivers pulse free gas
- Continuous operation 24/7
- Three stage oil separation for high quality gas
- Only one rotating part ensures long reliable life
- Intake modulation (servo control) only compress to the gas demand
- Direct drive means NO BELTS AND PULLEYS

SAFETY / RELIABILITY

The integrated design, direct coupling, low rotational speed and the limited number of moving parts ensure Mattei's rotary vane gas compressors remain safer, more durable and more reliable over time.

PRINCIPAL COMPONENTS

Rotor, blades, stator, end covers are manufactured from high quality cast iron. This means:

- No replacement required
- Totally reliable operation
- Long gas end life
- Improved efficiency

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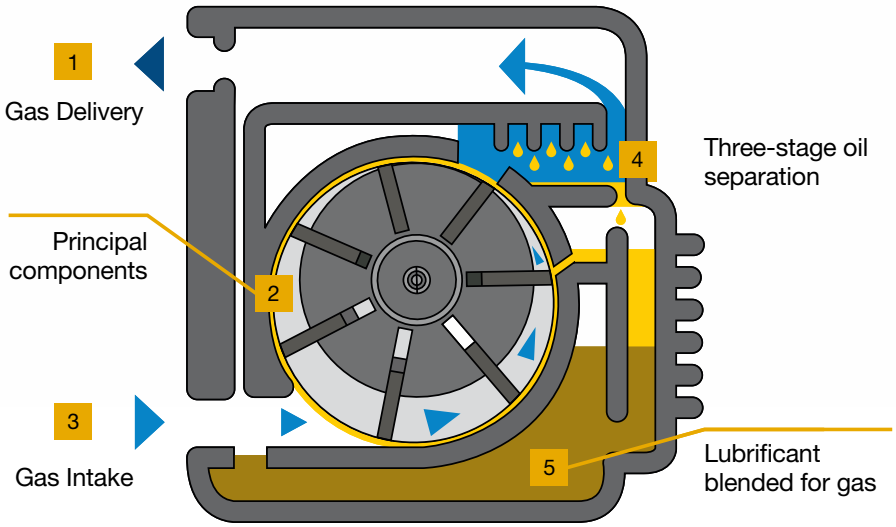
Mattei's rotary vane Gas Compressors are designed to compress sweet, sour and bio gasses.
The range covers 4kW up to 200kW available as a stand-alone gas end for local packaging or as customer specification gas compressor packages.
All versions come complete with automatic flow control at a constant delivery pressure, integrated or remote cooler and threaded or flanged gas intake facility.

The compressors are compact and easy to install, offering reliable operation and constant performance throughout time.

MAIN FEATURES	
Compression technology	Rotary Vane
Output	0% to 100%
Drive system	Direct coupled with elastic element
Cooling	Air/water – Integrated or remote panel cooler
Temperature protection	Thermistor
Controller	Fully customisable remote PLC control
	Mattei controller
Pressure Control	Servo with modulation - Pressure sensor - External signal Reference
Pressure protection	Safety valve
Operating ambient range	0°C to + 45°C (32F to + 113F)
Inlet pressure range	0.7 to 1.6 bara (10 to 23 psia)
Acceptable gases	Sweet Gas
	Sour Gas
	Bio Gas
Maximum allowable free moisture	None
Maximum allowable H2S	Continuous 300 ppm; Peak 800 ppm
Lubricant	Mattei V-Life Gas
Laws and conformity	Machinery directive
	Directive on pressure equipment
	Systems intended for use in potentially explosive atmospheres
Optional Feature	Active Zener Barrier

GAS RANGE

Rated power	4 to 200 kW
F.A.D.	0,4 to 35,3 m³/min
Working pressures	6 - 16 barg



MATTEI GAS COMPRESSORS' BENEFITS

- Full Atex packages
- Bespoke designs to suit application
- Fully integrated gas ends
- Sour gas compatible
- No yellow metals
- Whisper quiet operation
- 100% duty 24/7
- No fall off in gas quality
- Direct drive
- External pressure adjustment

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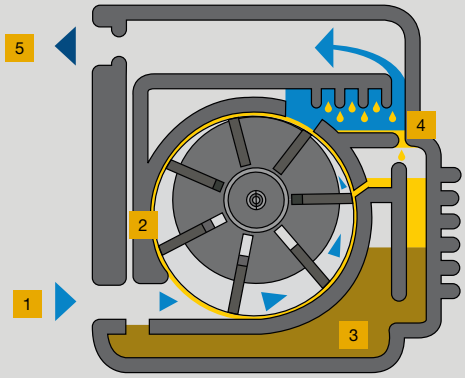
ROTARY VANE PRINCIPLE

The Heartbeat of any Mattei Compressor is the air end, this small and compact design is ideally suited for rail applications owing to the smooth rotary vane compression principle. It delivers high quality air, with very low noise levels, coupled with unrivalled reliability in operation in the most demanding and rugged of environments. The flexibility of design allows the compressor to be operated by any kind of drive system which meets the requirements and expectations of the user to control the on-board applications.

OPERATING PRINCIPLE



1	Air intake
2	Principal components
3	Lubricant blended for air
4	Three-stage oil separation
5	Air delivery

Maximum efficiency of the air compression process, excellent reliability and low maintenance costs are just some of the key benefits the Mattei rotary vane technology can offer.

The vane compressor is a volumetric rotary compressor, that consists of a stator cylinder (housing) in which a rotor is mounted off-centre but parallel to its sides. The rotor has a series of slots machined into its body housing blades (vanes) which are positioned and free to slide up and down during the compression process. The blades are specifically profiled enabling them to ride on a cushion of oil, which provides lubrication and sealing qualities to the stator during rotation.

PURE & SMOOTH PULSE FREE AIR

Lubrication and cooling are assured, by an efficient injection system, which allows a flow of oil to enter the stator, coating the metal components and preventing any metal to metal contact. The oil is used for:

- Sealing
- Lubricating
- Cooling

The compressed air and oil combination passes through various separating phases, using mechanical and coalescent methods of removal, before exiting the compressor and leaving less than 3mg/m3 (3ppm) of aerosol in the air. The now clean air leaves the compressor and is cooled in the aftercooler (if fitted), where condensation occurs mechanically and is removed before the air is allowed to pass downstream into the air treatment system. Oil Free air can be achieved and guaranteed, using air treatment packages, matching the air quality to the desired performance required by the user. **(Ask Mattei how we can precisely match your system demands).**

ALWAYS CARING ABOUT OUR CUSTOMERS

Mattei offers worldwide consultancy from its sales and assistance network. By purchasing a Mattei compressor, you can rely on highly qualified after sales service support, who are able to answer any request you may have in a very short timescale. Providing peace of mind at all times! This in part is thanks to Mattei being present in more than 40 countries around the world, Europe, America, Africa, Middle East, Asia and Oceania. Technicians and engineers are at your complete disposal for advice on your system, application and operational safety evaluation, ensuring you get the most from your Mattei compressor system all of the time.

CERTIFIED QUALITY

Quality is an integral part of our company function and constant improvement of all production processes, which guarantees the maximum level of reliability and satisfaction is achieved. This in brief is the value and meaning of Mattei's operational philosophy. A way of approaching the market and customers which makes Mattei an absolute point of reference in the compressed air sector. Since 1994, Mattei has been operating with a quality system certified by the DNV institute under UNI EN ISO 9001 standards.

MATTEI ORIGINAL SPARE PARTS

Mattei original spare parts and lubricants guarantee the performance of our compressor systems, they allow you to be sure of maintaining, over time, the same levels of performance, reliability and safety for the duration of the systems life, which you expect and demand:

- Parts are always available in stock
- Quality tested and conform to manufacturers specifications
- Parts are designed for Mattei recommended maintenance intervals
- Maintenance plans are designed and aligned to optimise your system demands both now and in the future

Mattei V-Life GAS

Mattei V-life GAS is a synthetic lubricant specifically formulated for Mattei rotary vane gas compressors, with a very high H2S ppm tolerance. This lubricant is the correct choice for both sweet and sour gas compression.

FEATURE & BENEFITS

4.000 hours service life
Prevention of acidity, sludge and deposit formation
Excellent coolant properties
Excellent demulsibility
Good oxidative stability

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CUSTOM APPLICATIONS

AG 55s LR

AG 55s LW

	Flow rate (m^3/min)	Rotational speed (r.p.m.)	Outlet pressure (bar)
AG 55s LR / LW	min 5,40 - max 9,96*	min 900 - max 1800	7

* values referred to suction pressure 0 bar(g) and considering methane as fluid

EGi 11 L

EGi 800

	Flow rate (m^3/min)	Rotational speed (r.p.m.)	Outlet pressure (bar)
EGi 11 L	min 1,50 - max 2,30*	min 1100 - max 1800	7
EGi 800	min 7,62 - max 14,18*	min 800 - max 1600	12

* values referred to suction pressure 0 bar(g) and considering methane as fluid

AGi 11 L

AGi 110

	Flow rate (m^3/min)	Rotational speed (r.p.m.)	Outlet pressure (bar)
AGi 11 L	min 1,05 - max 1,70*	min 1000 - max 1800	6,5
AGi 110	min 9,20 - max 16,82*	min 800 - max 1600	8

* values referred to suction pressure 0 bar(g) and considering methane as fluid

MVR

VGC 55s L

	Flow rate (m^3/min)	Rotational speed (r.p.m.)	Outlet pressure (bar)
MVR	min 3,31 - max 4,81	min 1150 - max 1750	10,5
VGC 55s L	min 5,40 - max 9,46*	min 900 - max 1700	7

* values referred to suction pressure 0 bar(g) and considering methane as fluid

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REFERENCES

MICROTURBINE GENERATORS

Mattei RVGC 111 Gas Compressor and 50 HP motor to compress Methane gas to drive a Capstone Micro Turbine to generate electricity used at the site.

Mattei RVGC 86 gas end and 15 HP motor installed in a beer brewery to compress brewery waste methane gas to drive a Capstone Micro Turbine to generate electricity used at the site.

Installation of 5 Mattei 55 kW gas variable speed compressors with a pressure of 8 bar which can compress up to 9,000 litre a minute of biogas containing up to 300 ppm of hydrogen sulphide, in accordance with the microturbine specifications.

GAS ENGINE BACK UP GENERATION

Power installation which uses 22 Mattei ERG 4 kW gas compressors feeding gas into large gas engines for electric generation.

VAPOR RECOVERY UNIT

Vapor Recovery Unit (VRU) which uses a Mattei RVGC 86 gas compressor and a 20HP motor to compresse low pressure Methane Vapor from crude oil tanks and wellheads to higher pressure Methane gas which is then used as a fuel at each site. There are over 100 of these units operating in the Southwest United States.

BIO GAS SCRUBBING

55 kW AG gas compressors used in an installation for an ammonia-based system for removal of CO^2 in Biogas.

DEFLARING

Billions of cubic meters of natural gas is flared annually at oil production sites around the globe. Flaring gas wastes a valuable energy resource that could be used to support economic growth and progress. It also contributes to climate change by releasing millions of tons of CO^2 to the atmosphere.

The World Bank's "Zero Routine Flaring by 2030" initiative has been endorsed by a multitude of top governments and oil companies. Mattei's Rotary Vane Gas Compressors are perfectly suited to eliminate those applications where flare gasses are currently being burnt. The capturing and pressurisation of these gasses allows the end user to then decide how to recycle them, either for local power generation, or to be reintroduced at a low pressure point of the process line.

THINK GREEN

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