

SERIES  
**MAXIMA 30 - 160 kW**

ROTARY VANE COMPRESSORS



MAXIMA  
MAXIMA R  
MAXIMA W  
MAXIMA PLUS  
MAXIMA R PLUS  
MAXIMA W PLUS

# SERIES MAXIMA

## About us



Ing. **Enea Mattei SpA** is an Italian company that has been producing air compressors since 1919. Over the years, the company has continually evolved and is today one of the world's foremost companies in the compressed air sector and the leader in the production of rotary vane compressors.

Behind the success of Mattei are the choices the company has made in terms of design, production and marketing, driven by the results of its continual and in-depth research and development programmes.

During these years of continual change, Mattei has been able to adapt to the requirements of the market and through the results of its research has created products that are always innovative and technologically advanced.



## Certified quality

Quality as an integral part of all company functions and constant improvement of all production processes so as to always guarantee 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 air sector.

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



## Compressors MAXIMA series

One of the primary aims of competing in the global economy is to minimise production costs. Industry leaders expect maximum value and profitable returns when investing in new machinery that will improve their manufacturing process and lower their costs. As compressed air production tends to be the single largest consumer of electricity in a given manufacturing plant, saving energy and reducing maintenance costs offers real opportunities to improve profitability and thus, enhance the competitive advantage for the company. Designed to save energy and protect the environment, the MAXIMA rotary vane air compressor range has been engineered by Mattei to meet the requirements of manufacturers that use large, constant volumes of compressed air for long periods of time. Maxima is best suited for high air demand applications where the production of compressed air has a virtually constant base load throughout the day. The name of this compressor was selected to evoke the essence of

the incredible performance of this machine. Maxima lives up to its name by delivering maximum performance from every kW of input energy. Mattei's ethos of continuous investment in research and development of its rotary vane technology has led to the excellent specific energy efficiency of the Maxima range. Large hinged doors and easily removable panels allow complete and easy accessibility for all maintenance and intervention operations. The compressor requires no special foundations and its base has suitable lifting points for ease of installation.



### SOFT - START

Motor soft starter allows a reduction of the load and torque in the power train and electrical current surge of the motor during start-up. This reduces the mechanical stress on the motor and shaft, as well as the electrodynamic stresses on the attached power cables and electrical distribution network, extending the lifespan of the system.

### Efficiency

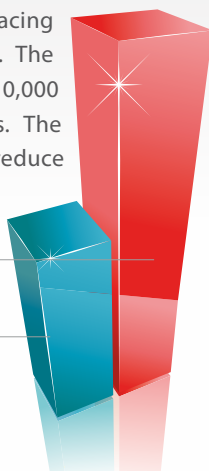
All MAXIMA's compressors have a 1:1 ratio between the electric motor speed and that of the airend. This means greater energy efficiency and higher performances. The low rotational speed of the compressor unit found only in vane technology, the high volumetric efficiency and the complete absence of roller or thrust bearings, result in energy savings of over 15% compared to other rotary compressors.

### Simple and economic maintenance\*

Maintenance operations only include changing the oil at predetermined intervals, cleaning or replacing the air filter and cleaning the radiator. The separator filters are substituted every 10,000 working hours, with significant savings. The absence of roller bearings helps to reduce significantly the cost for maintenance.

OTHER COMPRESSORS MAINTENANCE

MATTEI'S COMPRESSORS MAINTENANCE



### Energy saving

The MAXIMA range is equipped with high efficiency electric motors. The electric motor is directly coupled to the airend, allowing great advantages in overall efficiency of the compressed air unit, meaning less kW per m<sup>3</sup>/min.

### Direct coupling

The electric motor and the compressor are coupled directly by means of flexible coupling and turn at only 1000 rpm. Direct coupling determines a remarkable "energy saving" because there are no energy losses caused by gears or V belts.

### Energy recovery

Mattei offers for its compressors a heat recovery system that allows water to be heated for industrial process or sanitary use. The "Heat Recovery" kit is totally integrated into the oil cooling circuit, making the unit independent from the oil temperature control and protected from any possible malfunctions, such as water flow reduction and overheating.

### Blades designed for over 100,000 hours live\*

An oil film on the stator's inside surface prevents the moving parts from wearing out by avoiding a direct contact with the blades.

\*with Mattei Rotoroil

# SERIES MAXIMA

## Always caring about our customers' requirements

### Worldwide consultancy and assistance

Mattei operates worldwide with its sales and assistance network, providing a wide service range.

By purchasing a Mattei compressor you can rely on a qualified after-sales service, able to answer any request for assistance in very short time scales.



### 3D quality control

The quality check of manufacturing tolerances occurs constantly via three dimensional measurement machines.

This ensures the compliance of our products with the highest quality standards.

### Comprehensive tests

Before leaving our factory any Mattei compressor has already undergone various extensive and in-depth testing procedures, during which it has been checked and tested in different operating conditions. All the electric, mechanical and performance information are recorded via a wireless data detection system.

### High technology manufacturing machinery

The manufacturing of compression units and blades is made through modern robotic machining centres. The parts assembly is carried out by specialised staff and in accordance with strictly controlled operating procedures, specified by Mattei's quality management.

### Mattei original spare parts and lubricants

Mattei Original Spare Parts and Mattei Rotoroil lubricants are made to very high design standards and conform to precise technical specifications. Only Mattei original spare parts allow you to be sure of maintaining over time the same levels of performance, reliability and safety of your Mattei product.

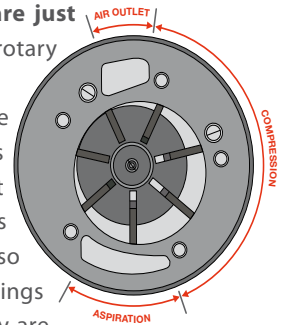
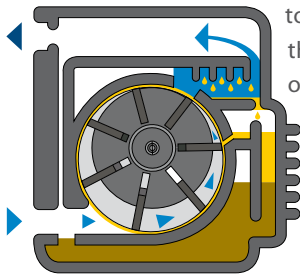
- Mattei Original Spare Parts are indispensable for the efficiency of your compressed air equipment;
- Parts are always available in stock;
- Quality tested and conforming to manufacturer specifications;
- Suitable for Mattei's recommended maintenance intervals.





## Operating principle

**Maximum efficiency of the air compression process, excellent reliability and low running costs; are just some of the key benefits that rotary vane technology can offer.** The vane compressor is a volumetric rotary compressor that consists of a stator cylinder in which a rotor is mounted off-centre but parallel to its sides. The rotor has slots in which the vanes are free to slide: centrifugal force keeps them in contact with the sides of the stator during rotation. The rotary vane compressor, thanks to its **simple construction**, offers remarkable advantages, first among them being **greater volume yield** because the vanes are in constant contact with the inner wall of the stator and form a perfectly airtight seal with no leaks along the wall thanks to a continuous film of oil. In this type of compressor no axial thrust is generated so the side surfaces of the rotor are not subject to wear and thus no rotating bearings or thrust bearings are needed. The vanes, too, because of the special way they are made have practically **unlimited life**. Behind the success of Mattei compressors there is thus **extreme reliability, long life, quiet operation and simplicity of maintenance**. Design is important too: compactness and clean lines, together with harmonious shapes, give Mattei compressors an image of robustness and ease of use.



## PLUS Version

### Dryer with ecological gas

The plus version includes the integrated installation of a direct expansion refrigeration dryer, which is air cooled and filled with environmentally friendly gas. The combination of a Mattei rotary vane air compressor with an integrated dryer and where applicable mounted on an air receiver is the ideal solution for a complete and compact system.

- ▶ Efficient refrigerating power partialization
- ▶ Constant dewpoint
- ▶ MAESTRO<sup>XS</sup> control
- ▶ High efficiency



## MAESTRO<sup>XS</sup>

### To have everything under control

The Maxima series is equipped with the exclusive state-of-the-art computerised controller, Maestroxs.

This system automatically controls, monitors and programmes the operation of the compressor, and can be connected to a PC for remote control.

If connected to other compressed air packages equipped with Maestroxs, the unit can become master of a compressed air plant, thus saving on the installation of an additional controller. Maestro<sup>XS</sup> can be interfaced via web or cellular technology to provide remote service monitoring.



# Technical data

400V/50 Hz/3

	Model	Max. working pressure		F.A.D.		Sound pressure level db(A)	Power		Dimensions LxWxH						Weight	
		bar	psig	m <sup>3</sup> /min	scfm		kW	hp	mm		ins		kg	lbs		
									mm	ins	mm	ins				
MAXIMA	MAXIMA 30	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	920	2024
	MAXIMA 55	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1710	3762
	MAXIMA 75	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2240	4928
	MAXIMA 110	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	2840	6248
	MAXIMA 160	8	115	32,15	1135	< 73	160	200	2700	106	1780	70	2240	88	4150	9130
	MAXIMA 30 R	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	940	2068
	MAXIMA 55 R	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1760	3872
	MAXIMA 75 R	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2290	5038
	MAXIMA 110 R	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	2920	6424
	MAXIMA 160 R	8	115	32,15	1135	< 73	160	200	2700	106	1780	70	2240	88	4350	9570
	MAXIMA 30 W	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	940	2068
	MAXIMA 55 W	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1710	3762
MAXIMA 75 W	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2240	4928	
MAXIMA 110 W	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	2920	6424	
MAXIMA 160 W	8	115	32,15	1135	< 73	160	200	2700	106	1780	70	2240	88	4350	9570	
MAXIMA PLUS	MAXIMA 30 PLUS	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	1015	2233
	MAXIMA 55 PLUS	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1870	4114
	MAXIMA 75 PLUS	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2400	5280
	MAXIMA 110 PLUS	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	3140	6908
	MAXIMA 30 R PLUS	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	1040	2288
	MAXIMA 55 R PLUS	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1920	4224
	MAXIMA 75 R PLUS	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2450	5390
	MAXIMA 110 R PLUS	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	3220	7084
	MAXIMA 30 W PLUS	8	115	6,45	228	65	30	40	1830	72	960	38	1670	66	1040	2288
	MAXIMA 55 W PLUS	8	115	11,45	404	< 67	55	75	2420	95,3	1245	49,1	1890	74,5	1870	4114
	MAXIMA 75 W PLUS	8	115	15,93	562	< 69	75	100	2420	95,3	1245	49,1	1890	74,5	2400	5280
	MAXIMA 110 W PLUS	8	115	23,35	825	< 70	110	150	2350	93	1390	55	1980	78	3220	7084

Energy recovery system version (R)

Water-cooled version (W)

F.A.D. in accordance with ISO 1217, annex "C"

Sound pressure level according to ISO 2151, tolerance: ± 3 dB(A)

Working pressure: 7.5 bar

## 460V/60 Hz/3

	Model	Max. working pressure		F.A.D.		Sound pressure level	Power		Dimensions LxWxH						Weight	
		bar	psig	m <sup>3</sup> /min	scfm		dB(A)	kW	hp	mm	ins	mm	ins	mm	ins	kg
MAXIMA	MAXIMA 30	8	115	6,87	243	67	30	40	1830	72	960	38	1670	66	920	2024
	MAXIMA 55	8	115	13,5	477	< 69	55	75	2420	95,3	1245	49,1	1890	74,5	1710	3762
	MAXIMA 75	8	115	17,3	611	< 71	75	100	2420	95,3	1245	49,1	1890	74,5	2240	4928
	MAXIMA 110	8	115	24	847	< 72	110	150	2350	93	1390	55	1980	78	2840	6248
	MAXIMA 160	8	115	34	1201	< 75	160	200	2700	106	1780	70	2240	88	4150	9130
	MAXIMA 30 R	8	115	6,87	243	67	30	40	1830	72	960	38	1670	66	940	2068
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	MAXIMA 110 PLUS	8	115	23,4	826	< 70	110	150	2350	93	1390	55	1980	78	3140	6908
	MAXIMA 30 R PLUS	8	115	6,87	243	67	30	40	1830	72	960	38	1670	66	1040	2288
	MAXIMA 55 R PLUS	8	115	13,5	477	< 69	55	75	2420	95,3	1245	49,1	1890	74,5	1920	4224
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Water-cooled version (W)

F.A.D. in accordance with ISO 1217, annex "C"

Sound pressure level according to ISO 2151, tolerance: ± 3 dB(A)

Working pressure: 7.5 bar



**ITALY - ING. ENEA MATTEI SpA**  
Strada Padana Superiore, 307  
20090 VIMODRONE (MI)  
Tel + 39 02253051 - Fax +39 0225305243  
E-mail: info@mattei.it

**[www.matteigroup.com](http://www.matteigroup.com)**

**UNI EN ISO 9001:2008**

**FRANCE**

MATTEI COMPRESSEURS  
Phone +33 535 542 205 - Fax +33 972 316 833  
E-MAIL: infos@mattei.fr - www.mattei.fr

**GERMANY**

MATTEI KOMPRESSOREN DEUTSCHLAND GmbH  
Phone +49 7151 5002560 - Fax +49 7151 5002565  
E-MAIL: info@mattei-kompressoren.de - www.mattei-kompressoren.de

**GREAT BRITAIN**

MATTEI COMPRESSORS Ltd  
Phone +44 (0)1789 450577 - Fax +44 (0)1789 450698  
E-MAIL: info@mattei.co.uk - www.mattei.co.uk

**U.S.A.**

MATTEI COMPRESSORS Inc  
Phone +1 410 5217020 - Fax +1 410 5217024  
E-MAIL: info@matteicomp.com - www.matteicomp.com

**RUSSIAN FEDERATION**

ING. ENEA MATTEI SpA  
Phone +7-495-739 41 90 - Fax +7-495-739 41 90  
E-MAIL: mattei@inbox.ru

**SPAIN**

ING. ENEA MATTEI SpA  
Phone +34 93 435 03 94 - Fax +34 93 455 26 76  
E-MAIL: info@mattei.it

**PEOPLE'S REPUBLIC OF CHINA**

Mattei (SuZhou) Air Compressors Manufacturing Co., Ltd  
WFOE by Ing. Enea Mattei SpA - Italy  
Tel: +86 512 66679986 Fax: +86 512 66679989  
E-MAIL: info@matteisuzhou.cn - www.matteisuzhou.com