



English

SERIES  
**OPTIMA 30 - 200 kW**

ROTARY VANE COMPRESSORS



OPTIMA  
OPTIMA R  
OPTIMA W

# SERIES OPTIMA



## 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.



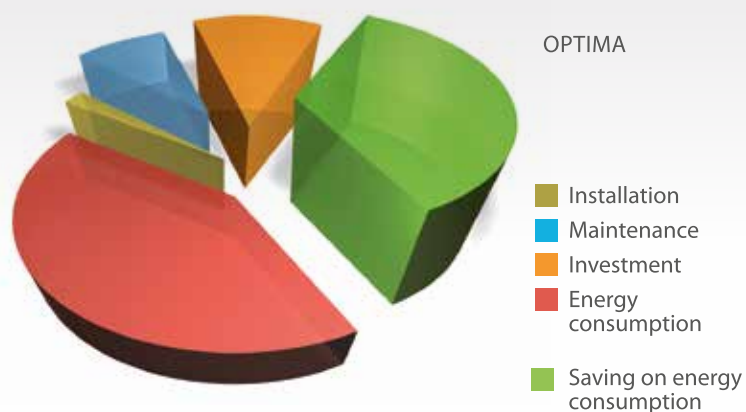
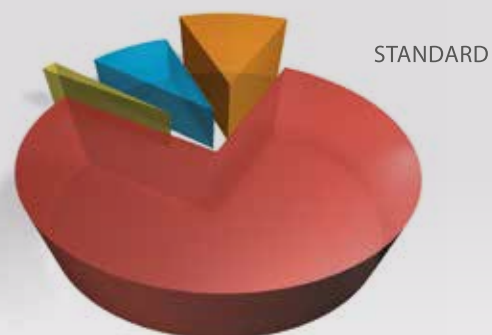
## The best solution to save energy

To ensure maximum energy savings Mattei's OPTIMA range of variable speed compressors leverage mattei's exclusive linear kw-to-capacity efficiencies to match their operation to suit the load profile required by the compressed air system. The inverter adjusts the motor's rotational speed, adapting the air delivered by the compressor to the real demand. OPTIMA can save up to 35% of the annual operating costs.

**IE3 HIGH EFFICIENCY MOTOR**

**STATE-OF-THE ART INVERTER**

**EXCELLENT PERFORMANCE  
WITH DIRECT COUPLING**



## Simply different: The compressor that makes the difference

### MATTEI'S COMPRESSORS

Mattei's rotary vane air compressors are the result of continuous innovation and advanced design capabilities. 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.



#### EFFICIENCY 1:1

All Mattei's compressors have a 1:1 ratio between the electric motor speed and that of the air end. This means greater energy efficiency and higher performances.

Compared to other technologies, rotary vane compressors guarantee a superior internal air seal, together with a consistent and long lasting performance.

### LOW OPERATING COSTS: LOW MAINTENANCE

Mattei's rotary vane compressors are designed to achieve 100,000 hours operating life without the need to replace any blades or other metal parts.

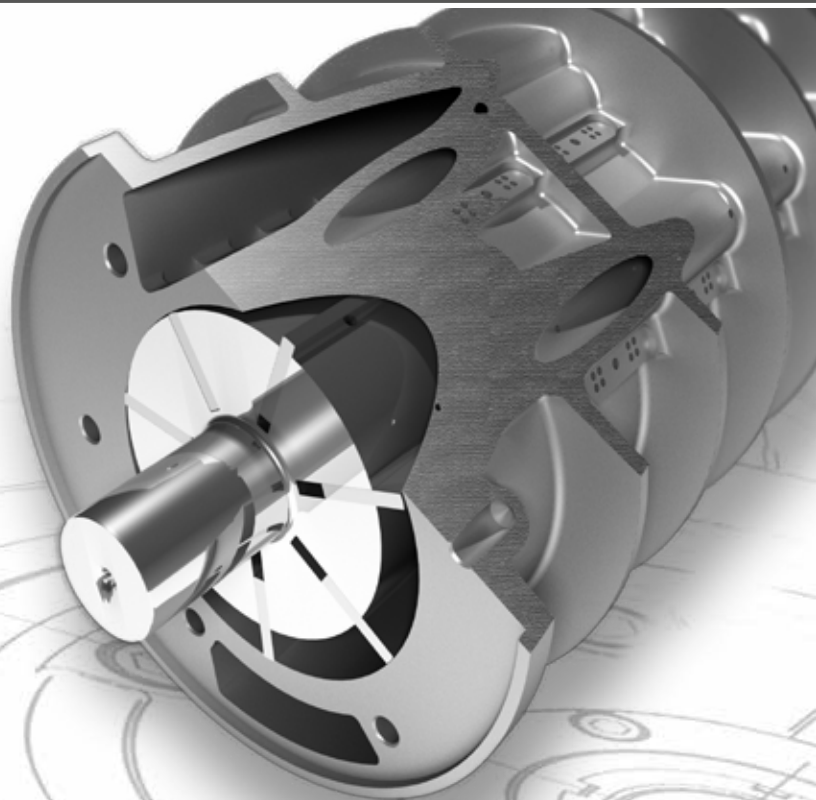
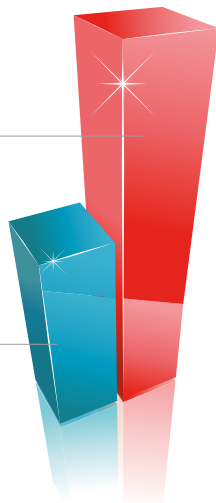
The long operating life of a Mattei compressor is assured by high quality machining which is the essence of rotary vane air compressors.

OTHER COMPRESSORS

MAINTENANCE

MATTEI'S COMPRESSORS

MAINTENANCE



#### GET YOUR "VANE GAIN"

Only Mattei's rotary vane technology is proven to be even more energy efficient the longer it runs. We call it VANE GAIN. Third party testing confirms that our lifetime-rated cast-iron blades begin to season from the moment you turn it on.

What does that mean to you? Simple. Our VANE lets you GAIN lower energy costs over time - an exclusive benefit found ONLY in Mattei's proprietary rotary vane technology.

## "Simply Different"

### A HIGH EFFICIENCY OIL SEPARATION

Oil is injected into the air during compression to cool, seal and lubricate. This oil is removed internally before it leaves the compressor. Separation of oil from air takes place in multiple stages. First separation occurs in the oil chamber as the air passes across a labyrinth, this removes 99.9% of the oil.

At the separator inlet the air flow has directional variations removing even more oil.

Finally the air flow passes through coalescing elements removing the final traces of oil to the level of 1 ppm.

The inbuilt oil separation system delivers high quality air and extends separator life.



# SERIES OPTIMA



## Evaluating compressed air

When selecting compressors it is very important to know the exact air needs of the user, together with the depreciation period and all other variables that will help to determine the option with the lowest overall cost of ownership.

Measuring the compressed air and energy consumption are essential to find out if changes in the equipment or servicing regime could be cost effective. There is no best compressor in absolute terms, but the best combination between the specific compressed air need and the compressor can always be found.



## Control with Maestro<sup>XS</sup>

All OPTIMA compressors are, as standard, fitted with a Maestro<sup>XS</sup> electronic controller. Thanks to this device the compressors are programmed to work in two different operating modes: "Neutral Zone" and "PID". OPTIMA adjusts its operation to the load profile required by the system. The inverter modifies the motor rotational speed, adjusting the air flow supplied by the compressor to the actual requirement of the system.

In PID mode the controller uses the average of the set up values as the target pressure and strives to keep the pressure at this value, by increasing or reducing the rotational speed.



# Compressors

## OPTIMA series

One of the primary aims of competing in the global economy is to minimize 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. When selecting compressors it is very important to know the exact air needs of the user, together with the depreciation period and all other variables that will help to determine the option with the lowest overall cost of ownership. Measuring the compressed air and energy consumption are essential to find out if changes in the equipment or servicing regime could be cost effective. There is no best compressor in absolute terms, but the best combination between the specific compressed air need and the compressor can always be found.

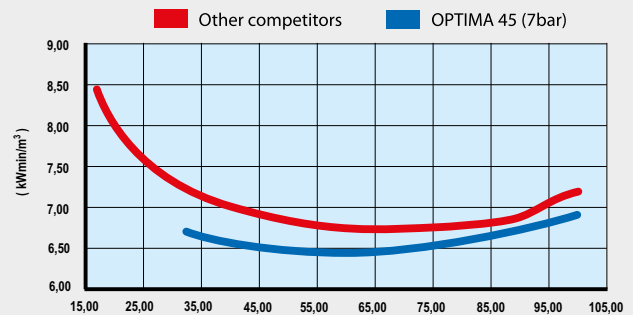
## Energy efficiency

The energy efficiency and the compressed air cost partly depend on efficiency of the compressors used in the production processes and on their optimal configuration, but they are also influenced by other important factors:

- Quality of the cooling system
- Waste heat recovery
- Reduction of air leaks
- Maintenance quality

## MATTEI INVERTER REGULATION SYSTEM

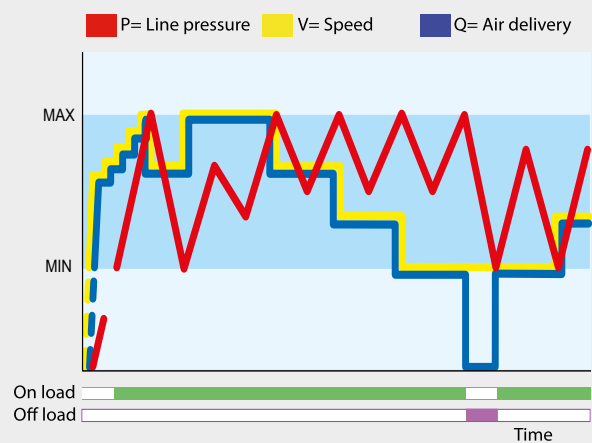
The Mattei inverter system always assures the highest energy savings. When the compressed air demand is between 100% and 40%, the compressor rotational speed reaches the highest efficiency, with an energy consumption much lower than traditional inverter systems.



## OPERATION

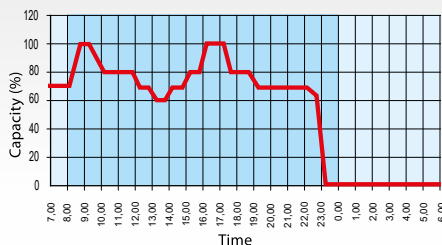
Optima operates within a range of pre-set maximum and minimum pressures. When reaching the maximum pressure, at the minimum rotational speed the shutdown of the intake valve occurs, the compressor is set "off load" and decompressed to 22 psi, to reduce the energy absorption further.

When the line pressure lowers to the minimum pre-set value it is reset to the "on load" condition and starts delivering air instantly, adapting the rotational speed to the air demand.

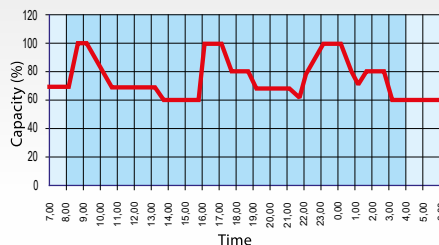


## TYPICAL USER PROFILES

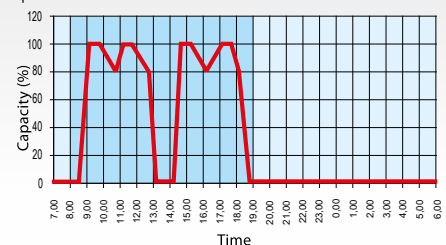
**Profile 1:** the unit runs 24 hours on 24 for 7 days a week with consumption variability between 70 and 100%.



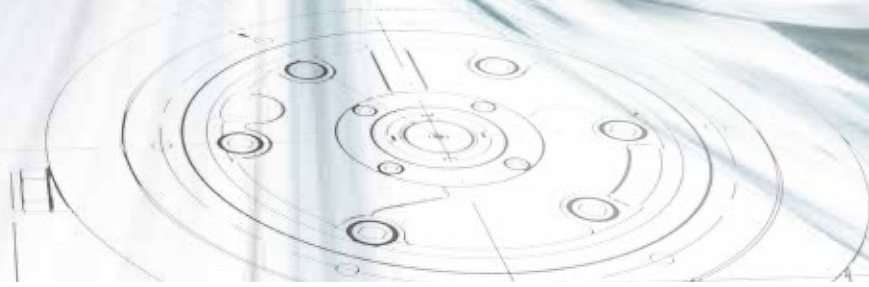
**Profile 2:** this is represented by a unit running for 16 hours a day and 5 days a week. Air consumption varies from 70 to 100% of maximum air demand.



**Profile 3:** this profile represent an application with an eight-hour shift at constant consumption for five days a week. Air demand tends to stay around 90% of maximum requirement.



# SERIES OPTIMA



400V-460V/50Hz-60Hz/3

	Model	Max. working pressure		F.A.D.		Sound pressure level db(A)	Power		Air receiver l	Dimensions LxWxH						Weight	
		bar	psig	m <sup>3</sup> /min	scfm		kW	hp		mm		ins		kg	lbs		
										mm	ins	mm	ins				
OPTIMA	<b>OPTIMA 30</b>	7 ÷ 10	100 ÷ 150	2,86 ÷ 5,34	101 ÷ 189	66	30	40	-	1830	72	960	38	1670	66	820	1804
	<b>OPTIMA 37</b>	7 ÷ 10	100 ÷ 150	3,63 ÷ 6,48	128 ÷ 229	66	37	50	-	1830	72	960	38	1670	66	880	1936
	<b>OPTIMA 45</b>	7 ÷ 10	100 ÷ 150	4,28 ÷ 8,00	151 ÷ 283	66	45	60	-	1830	72	960	38	1670	66	940	2068
	<b>OPTIMA 110</b>	7 ÷ 10	100 ÷ 150	11,25 ÷ 20,06	397 ÷ 708	69	110	150	-	2350	93	1440	57	1980	78	2570	5654
	<b>OPTIMA 132</b>	7 ÷ 10	100 ÷ 150	13,19 ÷ 23,52	466 ÷ 830	69	132	175	-	2350	93	1440	57	1980	78	2700	5940
	<b>OPTIMA 200</b>	7 ÷ 10	100 ÷ 150	20,04 ÷ 35,51	708 ÷ 1254	75	200	250	-	2815	111	1780	70	2235	88	4750	10450
	<b>OPTIMA 30 R</b>	7 ÷ 10	100 ÷ 150	2,86 ÷ 5,34	101 ÷ 189	66	30	40	-	1830	72	960	38	1670	66	840	1848
	<b>OPTIMA 37 R</b>	7 ÷ 10	100 ÷ 150	3,63 ÷ 6,48	128 ÷ 229	66	37	50	-	1830	72	960	38	1670	66	900	1980
	<b>OPTIMA 45 R</b>	7 ÷ 10	100 ÷ 150	4,28 ÷ 8,00	151 ÷ 283	66	45	60	-	1830	72	960	38	1670	66	960	2112
	<b>OPTIMA 110 R</b>	7 ÷ 10	100 ÷ 150	11,25 ÷ 20,06	397 ÷ 708	69	110	150	-	2350	93	1440	57	1980	78	2670	5874
	<b>OPTIMA 132 R</b>	7 ÷ 10	100 ÷ 150	13,19 ÷ 23,52	466 ÷ 830	69	132	175	-	2350	93	1440	57	1980	78	2780	6116
	<b>OPTIMA 200 R</b>	7 ÷ 10	100 ÷ 150	20,04 ÷ 35,51	708 ÷ 1254	75	200	250	-	2815	111	1780	70	2235	88	4950	10890
	<b>OPTIMA 30 W</b>	7 ÷ 10	100 ÷ 150	2,86 ÷ 5,34	101 ÷ 189	66	30	40	-	1830	72	960	38	1670	66	840	1848
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Sound pressure level at 1500 rpm

F.A.D. in accordance with ISO 1217 annex "E"

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

## Get **MyCare 6&10**

### Extended Warranty Coverage

Standard warranty is one (1) year, bumper-to-bumper covering parts and labor against defects in materials and workmanship. In addition, your Optima direct-drive air compressor is eligible for our MyCare 6 & 10 extended warranty program at NO additional cost to you.



#### WHAT YOU GAIN WITH MYCARE 6 & 10

The MyCare 6 program doubles the bumper-to-bumper protection to two (2) years and, covers the major compenets: Motor, Coolers, Controller, Oil Separator Tank, Inverter and Rotor Stator Unit (RSU or Airend), for a total of six (6) years. The MyCare 10 component is offered for our direct-drive industrial compressors and covers the Rotor Stator Unit (RSU or Airend) for an additional three (3) years, years seven (7) through ten (10).

#### HOW YOU GET MYCARE 6 & 10

To choose your **MyCare 6 & 10** extended warranty plan, simply check the MyCare 6 & 10 box during the start-up and commissioning process for your new Mattei air compressor as performed by a local Authorized Mattei Distributor.

#### MYCARE 6 & 10: TAILORED TO YOUR NEEDS

The program is built around your specific environment and anticipated hours of operation.

Authorized Mattei Distributors, are factory trained to ensure you get fast courteous service. They know what to look for to ensure you place your compressor in the best possible environment to ensure years of great service from your Mattei. The Technicians that inspect, start-up and commission your Mattei, are experienced in recommending the proper service program based on your specific environment. They want to get the job done quickly and correctly and will only recommend service intervals that they know will keep you happy and up and running between scheduled visits.

#### YOUR GOAL IS OUR GOAL

Our mutual goal is to ensure that your investment is properly maintained. This allows us to guarantee you will get the longest service life out of it while enjoying the lowest operating costs for years to come.

Mattei, simply wants you to benefit from the peace-of-mind in knowing that Mattei and your local Distributor have your best interests at heart right from the start.

#### GENUINE ORIGINAL PARTS & LUBRICANTS

Mattei compressors are engineered for many years of service. Our lubricants are engineered and custom blended to ensure that those lifetime-rated blades ride on a thin film of lubricant to prevent any wear and tear to the compressor. Authorized Mattei Service Centers employ qualified service engineers that carry specific tooling and stock Genuine Mattei Parts and Lubricants made to very high design standards that conform to exact technical specifications. Only through the use of Genuine Mattei Parts and Lubricants can you be guaranteed the protection you deserve and the highest levels of performance, reliability, safety and the lower energy costs of the future that were originally engineered into your Mattei air compressor.







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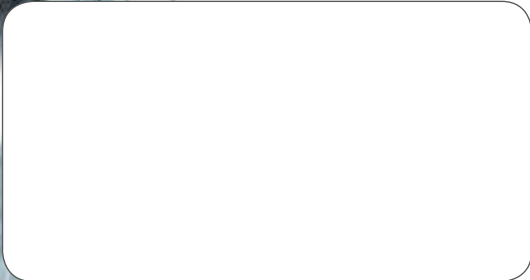
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**UNI EN ISO 9001:2015**



REV.0

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