

## CONCERTO: Complete control and absolute flexibility

Numerous compressor stops and starts, energy wastage and wide variations in the compressor operation represent common problems in many compressed air systems.

Concerto is Mattei's state-of-the-art compressed air management system, designed to satisfy any requirement of a compressed air user, regardless of the type of compressor installed. By the use of customisable functions the device allows the simultaneous command and control of **up to 16 compressors**, maintains a tight energy-saving pressure dead-band, limiting the idle running times and optimising the customer's choice. Concerto enables **energy savings of over 35%**.

### IMMEDIATE SAVING

Regardless of the compressors combination and model, Concerto always selects the most economical configuration, maximising the plant efficiency.

Concerto controller extends the life of your compressors, guaranteeing the smallest number of motor start ups, and eliminating idle running times almost completely.

### FUNCTIONALITIES

**Concerto** requires only a few configuration parameters, to allow the combination of differently performing compressors to synchronise their compressed air production with the consumption demand.

A clear display facilitates the system programming operations, making them easy and intuitive.



### CONTROL VIA PC

The main parameters, failure signals, maintenance intervals and energy consumptions can be directly displayed on a PC via a normal web server. This way the equipment can always be easily monitored and controlled in order to minimise unplanned events.

### GLOBAL MANAGEMENT

Dryers, filters and condensate treatment accessories can be directly connected to the system via digital inputs. In the same way analogue output sensors can be connected, in order to monitor the entire compressed air system.

Due to this Concerto provides an extremely wide range of information regarding the plant management, which is also viewable via web server.

Concerto also manages and controls variable speed compressors, fitted with an inverter, ensuring that they remain within their maximum efficiency range.

## MULTICOMP II



When a production process requires variable amounts of compressed air or it is necessary to avoid any machine downtime, a controller optimises the compressed air system management. Multicomp II is Mattei's superior controller, suitable for small and medium enterprises, and is able to manage **up to 6 compressors**. Multicomp II controls the line pressure variations and drives the operation cycle of each compressor independently, according to a programmable sequence.



### MANAGEMENT MODES

- *Sequence*: the first compressor to start will be the first one to stop
- *Cascade*: the first compressor to start will be the last one to stop
- *Hour equalisation*: it balances the operation times for each compressor
- *Flow*: each compressor starts according to the actual compressed air requirement

It is also possible to divide the compressors controlled by Multicomp II into two groups. Each group can be managed according to the above mentioned modes.

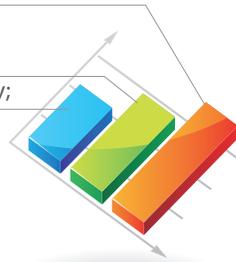
# SERIES ENERGY SAVING

## Energy recovery from compressed air

In a lubricated and air-cooled compressor, about 80% of its absorbed power is wasted as heat in the oil. The heat absorbed by the oil during the air compression process is transferred to the air flow, that goes through the cooler and is dispersed to the atmosphere.

The mechanical energy used for compression is wasted as follows:

- about 80% for oil cooling;
- about 10-12% transferred to the compressed air as heat;
- about 2-3% in compressed air as energy;
- the rest due to heat radiation.



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.

## How much can you save by recovering heat?

The possibility to use the energy recovered as hot water during an entire year depends on the use you make of it.

Up to 80% of the recovered heat can be used in your industrial building to produce hot sanitary water or for space heating.

It is even possible to recover up to 100% of the thermal energy if there is an industrial process that requires heat.

Absorbed electric energy = 100



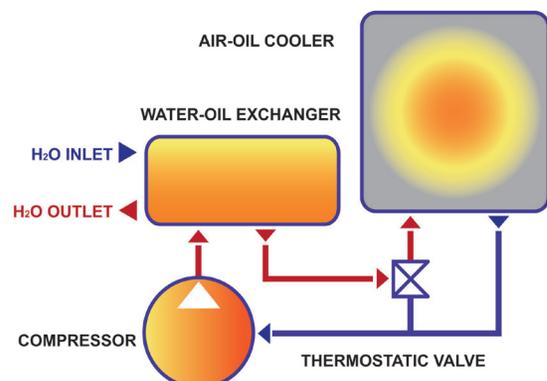
Recovered thermal energy  $\geq 80$



## The flow

Instead of cooling down in the radiator, the hot oil coming from the compressor transfers its heat to water through a plate heat exchanger.

If the water cooling is insufficient the oil will also pass through the radiator, releasing part of the heat to the environment.

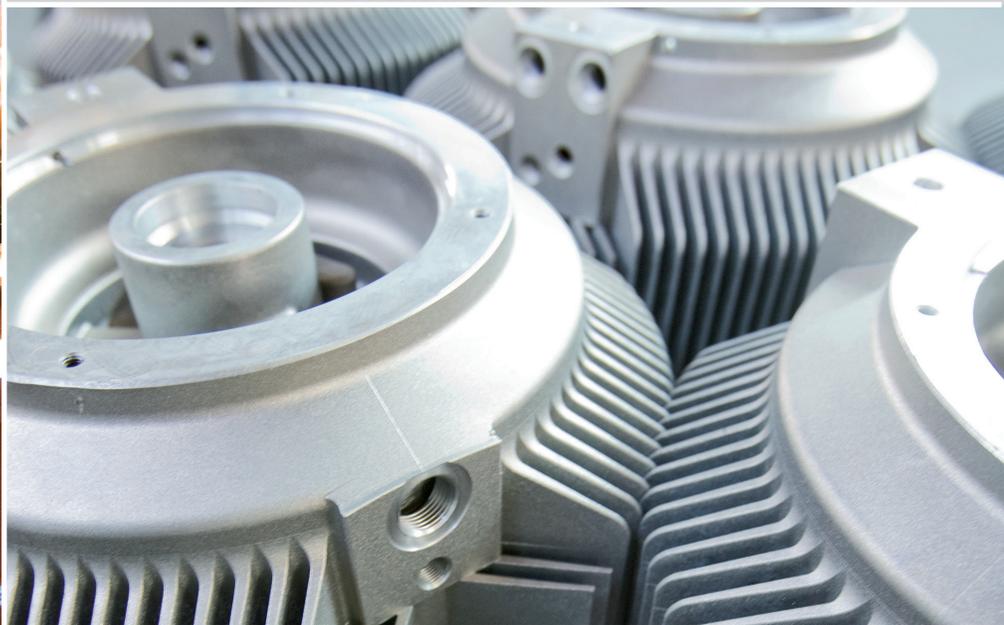


## Recoverable thermal power

Model	Rated power	Recoverable thermal power	
	kW	kW/h	Kcal/h
MAXIMA 30	30	28	24,080
MAXIMA 55	55	48	41,280
MAXIMA 75	75	66.4	57,104
MAXIMA 110	110	105.6	90,816
MAXIMA 160	160	140	120,400

Recoverable powers at full-load and working pressure.

1 kW = 860 Kcal



## Example of saving – natural gas

Calculation of potential saving with a compressor, according to the following conditions:

- Absorbed power at the shaft = 110 kW
- Yearly working hours = 2,500
- Cost of natural gas per m<sup>3</sup> = € 0.50
- Specific heat of natural gas = 8,250 Kcal/m<sup>3</sup>

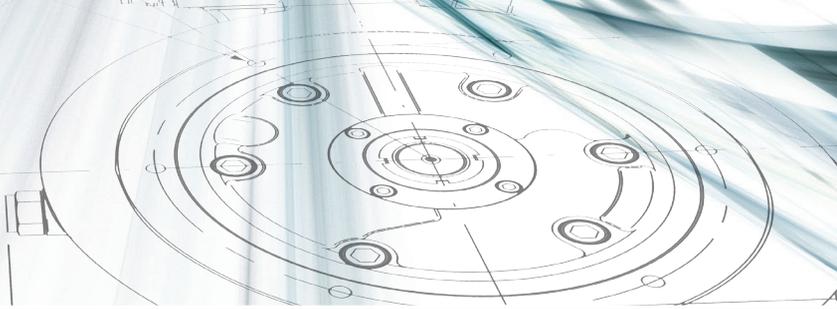
Recoverable power from oil = 88 kW (80% of 110) = 75,680 Kcal/h

Equivalent saving in natural gas m<sup>3</sup> = 9.17 m<sup>3</sup>/h (75,680 / 8,250)

Equivalent saving of natural gas in Euros/h = € 4,60/h (9.17 x 0.50)

Yearly saving of natural gas in Euros = € 11500 (4,60 x 2500)

# SERIES ENERGY SAVING



## 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.



## 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



## MIEM: Mattei Intelligent Energy Management

The cost to produce a fixed quantity of compressed air greatly depends on the efficiency of the compression system.

To obtain potentially significant energy savings it is important to identify the minimum working pressure and demand profile required for a plant's compressed air supply.

The MIEM system allows Mattei to check the suitability of a currently installed compressed air plant and to verify any possible opportunities to improve its efficiency.

Thanks to specifically developed software, Mattei's technicians are able to evaluate the customer's current air consumption profile and to estimate the relative energy consumption. In addition the MIEM analysis allows Mattei to simulate the optimum energy solution via a computer, often providing potential savings of 40%.



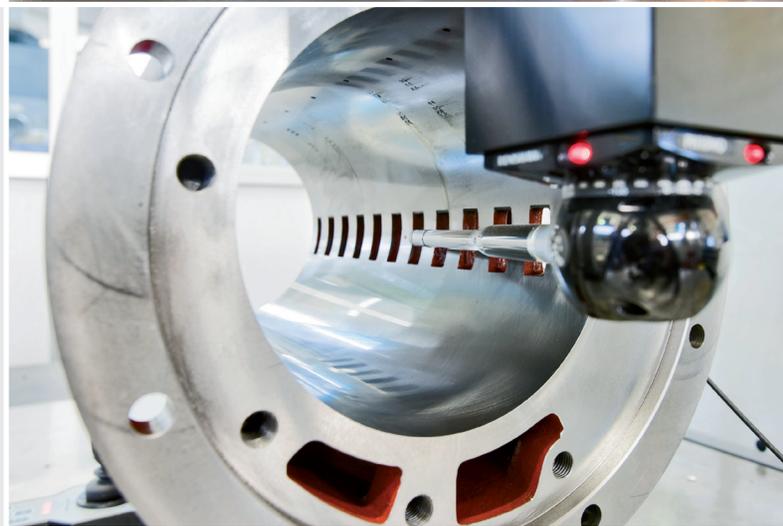
## Total quality management

Mattei considers quality as an essential value that represents the key factor to develop a positive relationship between the culture and performance of one's company. Innovative management software, developed solely for Mattei and technologically advanced manufacturing equipment, such as robotic machining centres and high precision machine tools, are at the heart of the advanced technical and quality levels of Mattei's products.



## 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.



### 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.



## Technical data

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

	MODEL	MAX. WORKING PRESSURE		F.A.D.		SOUND PRESSURE LEVEL db(A)	MOTOR		AIR RECEIVER l	DIMENSIONS LxWxH						WEIGHT	
		bar	psig	m <sup>3</sup> /min	scfm		kW	hp		mm	ins	mm	ins	mm	ins	kg	lbs
OPTIMA	OPTIMA 11	7 ÷ 10	100 ÷ 150	1,19 ÷ 1,93	42 ÷ 68	65	11	15	-	1250	49	610	24	1040	41	250	550
	OPTIMA 11 S	7 ÷ 10	100 ÷ 150	1,19 ÷ 1,93	42 ÷ 68	65	11	15	270	1530	60	750	30	1540	61	340	748
	OPTIMA 15 (*)	7 ÷ 10	100 ÷ 150	1,64 ÷ 2,65	58 ÷ 94	67	15	20	-	1510	59	800	32	1200	47	470	1034
	OPTIMA 22 (*)	7 ÷ 10	100 ÷ 150	2,27 ÷ 3,68	80 ÷ 130	67	22	30	-	1510	59	800	32	1200	47	470	1034
	OPTIMA 30 (**)	7 ÷ 10	100 ÷ 150	2,515 ÷ 5,342	89 ÷ 189	66	30	40	-	1830	72	960	38	1670	66	820	1804
	OPTIMA 45 (**)	7 ÷ 10	100 ÷ 150	3,768 ÷ 8,002	133 ÷ 283	66	45	60	-	1830	72	960	38	1670	66	940	2068
	OPTIMA 60 (**)	7 ÷ 10	100 ÷ 150	5,46 ÷ 10,84	193 ÷ 383	68	55	75	-	2150	85	1200	47	1890	74	1640	3608
	OPTIMA 75 (**)	7 ÷ 10	100 ÷ 150	6,955 ÷ 13,723	246 ÷ 485	68	75	100	-	2150	85	1200	47	1890	74	1680	3696
	OPTIMA 90 (**)	7 ÷ 10	100 ÷ 150	8,29 ÷ 16,47	293 ÷ 582	68	90	125	-	2150	85	1200	47	1890	74	1720	3784
	OPTIMA 110 (**)	7 ÷ 10	100 ÷ 150	10,185 ÷ 20,06	360 ÷ 708	69	110	150	-	2350	93	1390	55	1980	78	2500	5500
	OPTIMA 132 (**)	7 ÷ 10	100 ÷ 150	11,94 ÷ 23,515	422 ÷ 830	69	132	175	-	2350	93	1390	55	1980	78	2780	6116
OPTIMA 200 (**)	7 ÷ 10	100 ÷ 150	17,995 ÷ 35,435	635 ÷ 1251	75	200	250	-	2700	106	1780	70	2240	88	4750	10450	
OPTIMA PLUS	OPTIMA 11 PLUS	7 ÷ 10	100 ÷ 150	1,19 ÷ 1,93	42 ÷ 68	65	11	15	-	1250	49	690	27	1040	41	260	572
	OPTIMA 11 S PLUS	7 ÷ 10	100 ÷ 150	1,19 ÷ 1,93	42 ÷ 68	65	11	15	270	1530	60	750	30	1540	61	350	770
	OPTIMA 15 PLUS (*)	7 ÷ 10	100 ÷ 150	1,64 ÷ 2,65	58 ÷ 94	67	15	20	-	1510	59	800	32	1200	47	500	1100
	OPTIMA 22 PLUS (*)	7 ÷ 10	100 ÷ 150	2,27 ÷ 3,68	80 ÷ 130	67	22	30	-	1510	59	800	32	1200	47	500	1100
	OPTIMA 30 PLUS (**)	7 ÷ 10	100 ÷ 150	2,515 ÷ 5,342	89 ÷ 189	66	30	40	-	1830	72	960	38	1670	66	910	2002
	OPTIMA 45 PLUS (**)	7 ÷ 10	100 ÷ 150	3,768 ÷ 8,002	133 ÷ 283	66	45	60	-	1830	72	960	38	1670	66	1040	2288
	OPTIMA 60 PLUS (**)	7 ÷ 10	100 ÷ 150	5,46 ÷ 10,84	193 ÷ 383	68	55	75	-	2150	85	1200	47	1890	74	1810	3982
	OPTIMA 75 PLUS (**)	7 ÷ 10	100 ÷ 150	6,955 ÷ 13,723	246 ÷ 485	68	75	100	-	2150	85	1200	47	1890	74	1850	4070
	OPTIMA 90 PLUS (**)	7 ÷ 10	100 ÷ 150	8,29 ÷ 16,47	293 ÷ 582	68	90	125	-	2150	85	1200	47	1890	74	1890	4158
	OPTIMA 110 PLUS (**)	7 ÷ 10	100 ÷ 150	10,185 ÷ 20,06	360 ÷ 708	69	110	150	-	2350	93	1390	55	1980	78	2800	6160
	OPTIMA 132 PLUS (**)	7 ÷ 10	100 ÷ 150	11,94 ÷ 23,515	422 ÷ 830	69	132	175	-	2350	93	1390	55	1980	78	3080	6776

(\*) Available with energy recovery system (R).

(\*\*) Available with energy recovery system (R) or in water-cooled version (W).

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

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

## Technical data

400V/50Hz/3

	MODEL	MAX. WORKING PRESSURE		F.A.D.		SOUND PRESSURE LEVEL db(A)	MOTOR		DIMENSIONS LxWxH				WEIGHT			
		bar	psig	m <sup>3</sup> /min	scfm		kW	hp	mm	ins	mm	ins	mm	ins	kg	lbs
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	2150	85	1200	47	1890	74	1750	3850
	MAXIMA 75 (**)	8	115	15,93	562	69	75	100	2150	85	1200	47	1890	74	1950	4290
	MAXIMA 110 (**)	8	115	23,35	825	70	110	150	2350	93	1390	55	1980	78	2700	5940
	MAXIMA 160 (**)	8	115	32,15	1135	73	160	200	2700	106	1780	70	2240	88	4150	9130
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	2150	85	1200	47	1890	74	1920	4224
	MAXIMA 75 PLUS (**)	8	115	15,93	562	69	75	100	2150	85	1200	47	1890	74	2120	4664
	MAXIMA 110 PLUS (**)	8	115	23,35	825	70	110	150	2350	93	1390	55	1980	78	3000	6600

460V/60Hz/3

	MODEL	MAX. WORKING PRESSURE		F.A.D.		SOUND PRESSURE LEVEL db(A)	MOTOR		DIMENSIONS LxWxH				WEIGHT			
		bar	psig	m <sup>3</sup> /min	scfm		kW	hp	mm	ins	mm	ins	mm	ins	kg	lbs
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	2150	85	1200	47	1890	74	1750	3850
	MAXIMA 75 (**)	8	115	17,3	611	71	75	100	2150	85	1200	47	1890	74	1950	4290
	MAXIMA 110 (**)	8	115	24	847	70	110	150	2350	93	1390	55	1980	78	2700	5940
	MAXIMA 160 (**)	8	115	34	1201	73	160	200	2700	106	1780	70	2240	88	4150	9130
MAXIMA PLUS	MAXIMA 30 PLUS (**)	8	115	6,87	243	67	30	40	1830	72	960	38	1670	66	1015	2233
	MAXIMA 55 PLUS (**)	8	115	13,5	477	69	55	75	2150	85	1200	47	1890	74	1920	4224
	MAXIMA 75 PLUS (**)	8	115	17,3	611	71	75	100	2150	85	1200	47	1890	74	2120	4664
	MAXIMA 110 PLUS (**)	8	115	24	847	72	110	150	2350	93	1390	55	1980	78	3000	6600

(\*\*) Available with energy recovery system (R) or in water-cooled version (W).

Working pressure: 7,5 bar

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

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

Working pressure: 7.5 bar



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