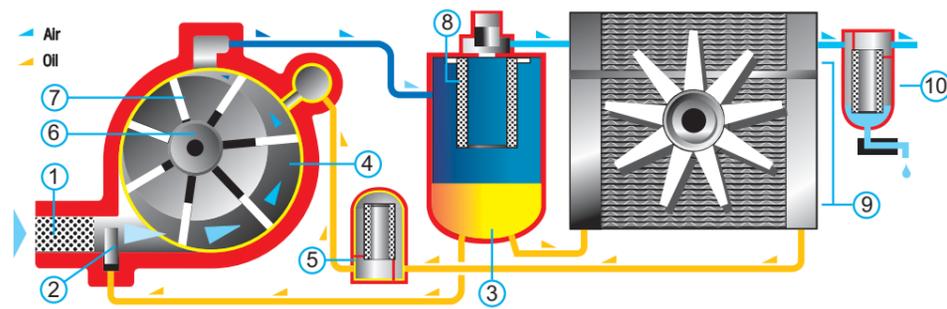


## OPERATION PRINCIPLE

The air is sucked through a filter and passes through a modulating proportional valve which regulates air delivery according to air requirement. This valve allows to maintain a constant working pressure. The air goes into the compression chamber where the stator, rotor and blades create a series of vanes (or volumes). The rotor rotates eccentrically to the stator and is characterised by vertical slots in which the blades are placed and are pushed against the stator's wall by centrifugal force.

Lubrication and cooling are guaranteed by an efficient injection system which allows perfect hold and a lower lubricant consumption. A thin film of oil



on the stator's wall avoids direct contact of the metal parts giving no wear. During the rotation the compression occurs with the volume reduction of the spaces between the rotor-blades and the stator. The compressed air and oil mixture passes through various separating phases mechanical and coalescent, leaving less than 3 mg/m<sup>3</sup> (parts per million) of oil in the air. The purified air leaves the compressor and is cooled in the radiator. The condensate which is produced is eliminated by a separator with an electronic condensate drain.

1. Air filter
2. Automatic intake valve
3. Oil chamber
4. Compression chamber
5. Oil filter
6. Rotor
7. Blades
8. Coalescing separator
9. Air/oil cooler (radiator)
10. Condensate drain (optional)

50 Hz L = 8 bar H = 10 bar HH = 13 bar

## TECHNICAL FEATURES

Model	Rated motor power kW	Free air delivery* m <sup>3</sup> /min			Sound pressure level** dB(A)
		L	H	HH	
AC 110	110	21,35	17,65	16,20	69
AC 132	132	24,47	21,95	18,65	69

Working pressures: 7,5 bar for 8 bar version - 9,5 bar for 10 bar version - 12,5 bar for 13 bar version

(\*) Free air delivery as per ISO 1217: 1996 annex "C"

(\*\*) Sound pressure level as per PN8NTC2.3; average value measured from a distance of 1 m

## OPTIONAL

### CONDENSATE SEPARATOR AND DRAIN KIT

### HEAT RECOVERY KIT

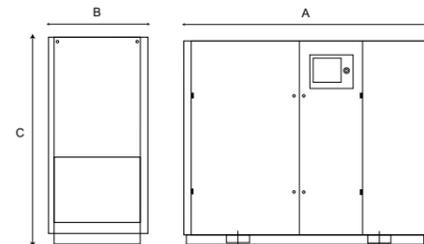
Recoverable heat 80% of shaft power

### OIL-WATER SEPARATOR

Max oil content < 5 mg/l

## DIMENSIONS (mm) - WEIGHT (kg)

AC		110	132
A	mm	2350	2350
B	mm	1390	1390
C	mm	1980	1980
Weight	kg	2650	2800



Ing. Enea Mattei SpA reserves the right to change or replace the data contained in this catalogue at any moment and without notice.

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**6000**  
AC Series



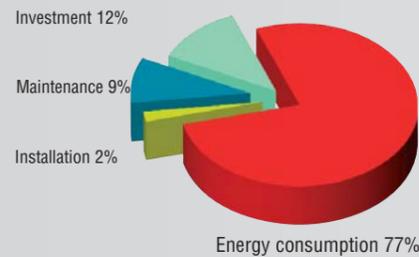
# The Best Solution for Your Company

The 6000 series centres adopt the exclusive Mattei vane technology and are designed to work 24 hours a day. These new compressors are solid and reliable and offer excellent performance in terms of air delivery and low energy consumption. Maximum care is given to details in the design and the components are of the highest quality. Maintenance intervals are limited and are reduced to the sole oil change and filter cleaning or substitution. The centres are designed to enable easy access to all its components.

These are a few of the 6000 series unique characteristics:

- Long-life blades.
- Low energy consumption.
- Low compressor rotational speed (only 1500 r.p.m.).
- Low maintenance costs and easy use.

## ENERGY COSTS ARE MORE IMPORTANT THAN THE INITIAL INVESTMENT



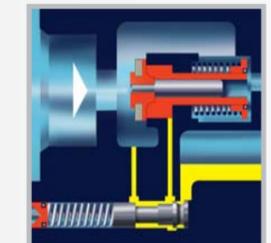
The energy cost of a compressed air installation can reach 80% of total costs. All other costs such as ordinary and extraordinary maintenance or the buying cost are important but become secondary when compared to electric energy as illustrated in the diagram. The diagram underlines a clear truth: even a small percentage of saving in energy will produce important economic benefits.

The diagram refers to a system with a 45 kW compressor, 5 year depreciation, 4000 hours/year, operating pressure 7 bar.



## AIR/OIL SEPARATION

The air/oil separation occurs in different stages and ensures exceptionally low oil consumptions. The main mechanical separation occurs in the oil receiver, before the filter, due to slowing down and change of direction of the flow. The last separation occurs through the coalescing filter, removing the remaining oil vapours from the air. This particular oil separation system brings to a very reduced oil consumption. The large size of the filter and quality of materials ensure a long life of the filter itself.

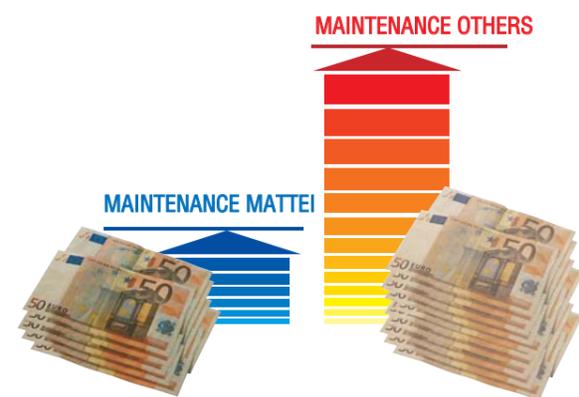


## OPERATING ECONOMY

The AC 6000 Series centres are regulated by the Full Load / Off Load Running system. This regulation maintains the line pressure within a range of minimum and maximum pressure set by the pressure switch and the compressor may stop and restart according to air demand. When the pressure reaches the maximum value the compressor will run off load with the immediate closure of the intake valve and the start of the decompression phase for a better operating economy.

## 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.



\* with Mattei Rotoroil



## ENERGY SAVING

The 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.



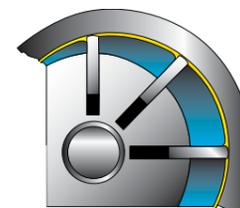
## DIRECT COUPLING

The electric motor and the compressor are coupled directly by means of flexible coupling and turn at only 1500 rpm. Direct coupling determines a remarkable "energy saving" because there are no energy losses caused by gears or V belts.



## COOLING

The compressor is complete with two coolers, entirely made of aluminium and suitable to cool the oil and the compressed air. An air flow, produced by two centrifugal fans placed inside the soundproof canopy flows through the coolers and cools the same. The compressed air cooling system is arranged for the fitting, externally to the soundproof enclosure, of a condensate separator and electronic drain with timer. The compressed air outlet temperature is < 11 K over the ambient temperature.



## 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

## SAFETY

Each Mattei centre is subject to a regular and severe cycle of checks, during which performance is controlled under the worst operating conditions.



## MAESTRO

The AC 6000 series is equipped with an exclusive state-of-the-art computerised controller, Maestro. This system automatically controls the unit's operation, and can be connected to a PC for a remote control. If connected to other compressed air packages equipped with Maestro, the unit can become master of a compressed air plant, thus saving on the installation of a superior controller. Maestro can be interfaced via web or cellular technology to provide remote service monitoring.