

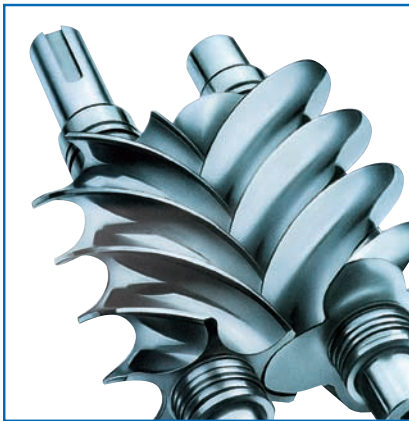
# Rotary Screw Compressors

## PS 3100 SERIES - DIRECT DRIVE

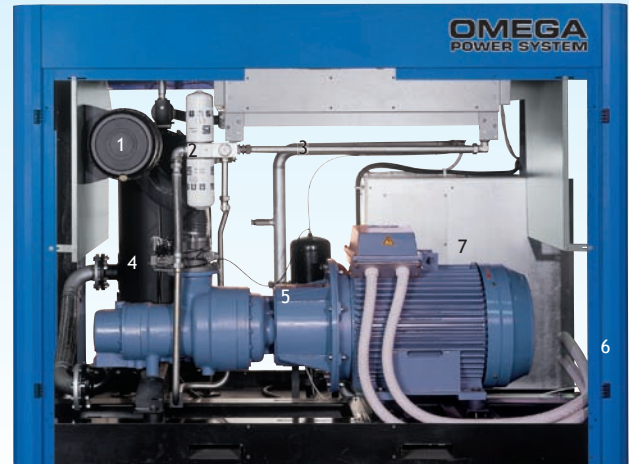


PS 3175

THE "PS 3100-6000" AIR-COOLED AIR COMPRESSOR is an oil injected, rotary screw compressor series complete with all typical accessories of a air compression unit such as: electric motor, starter, command and control panel, final cooler, condensate separator with timed discharge and soundproof cabinet. This compressor is totally air-cooled and is designed for a continuous duty.



**COMPRESSOR ELEMENT WITH HIGH YIELD** of the lubricated single-stage rotary screw type; it is composed of two rotors, a male one with 5 lobes and a female one with 6 slots, with asymmetrical profiles. The forged steel rotors are cut using machines with numerical control and are fitted on roller and ball bearings which support their radial loads and axial thrust. Compression takes place in a single stage. The compression heat is taken away by the oil injected between the two rotors.



### MAIN COMPONENTS

1. Two stage air filter
2. Oil filter with cartridge
3. Easily inspectable Air-Oil cooling unit
4. Three stage Air-Oil Separator
5. High Efficient Condensate Separator
6. Prefilter in Synthetic Fibre
7. Starting Equipment complying to the CEI Regulation

### HIGH-PERFORMANCE SILENT TRANSMISSION

The compressor element is driven directly by the electric motor by means of a flexible coupling and a couple of helical gears. This drive system guarantees perfect alignment of the screw-motor unit along with silent operation, lasting reliability and high performance.

### ELECTRIC MOTOR

The electric motor is rated in insulation class F and protection IP 55. In the description shown below it is given the definition of protection grade for IP 23 and IP 55 respectively:

#### IP 23

- protection against the penetration of foreign bodies with a diameter larger than 12 mm.
- protection against drops of water with incidence 60°
- total protection against splashes of liquids and harmful deposits of dust inside the windings.
- total protection against jets of water shot from any direction.

### TWO-STAGE AIR FILTER

This is how the filtration is accomplished

1. centrifugation and storage of dust in the container
2. filtration by means of a cartridge with degree of particle separation (99.6% at 2  $\mu$ )

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### HIGH EFFICIENCY CARTRIDGE OIL FILTER

Complete with by-pass.

### AIR-OIL COOLING UNIT

With a large radiating surface to reduce pressure drop and allow the maximum value of the unit. Air and oil gets cooled by means of an electric fan.

### THREE-STAGE AIR-OIL SEPARATOR

(Mechanical coalescing and filtration) with spin-off cartridge. The separation takes place in three stages: Centrifugation, condensation and oil separation by means of a multistage oil-separating filter.

### HIGH EFFICIENCY CONDENSATE SEPARATOR

Acts on the water-oil particles complete with timed electronic discharge, designed to reduce air loss during the discharge phase to a minimum.

### PRE-FILTER IN SYNTHETIC FIBRE

Protecting against impurities in the intake air.

### REGULATION AND CONTROL CIRCUIT

The regulation and control system adopted for this series of machine processes the pressure and temperature signals by means of sensors located inside the compression unit and control their operation, in order to guarantee the air flow rate required by the user continuously with almost constant pressure and with specific energy consumption below the traditional values. Briefly, the system allows:

- display the operating conditions of the main components of the compression control unit;
- modify the programmed working conditions;
- automatic identification of the on-off or proportional operating times of the compressor according to the working conditions, in order to reduce the energy consumption of the compressor unit;
- continuous monitoring of any maintenance jobs, depending on the environmental and working conditions of the compression unit, thus making the service safer and less expensive;
- protection of the compressor against lack of phase, incorrect direction of rotation, high temperature or pressure, malfunctioning of the transducers;
- protection of the electrical motor and of the electrical fan against overload.

### EPS 3

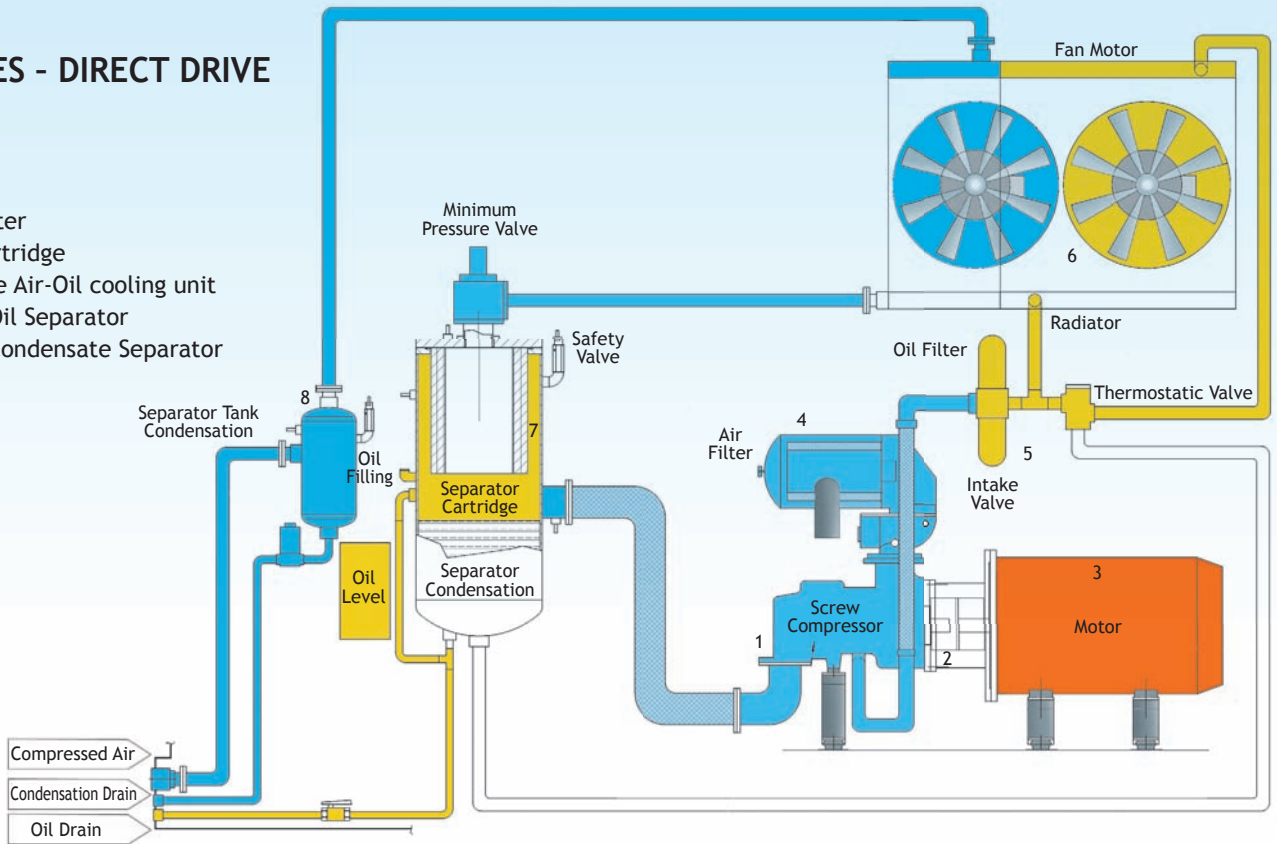
This Control Unit is an advanced electronic controller, it provides the regulation of the compressed air control unit allowing the highest compressor regulation flexibility. The system also allows a sequential network of up to 6 compressors. It is equipped with an alphanumeric LCD display for showing the functions, the maintenance and the instructions for the machine reset, together with the programming of the working parameters. It is also equipped with a date clock and weekly timer for displaying the time and the date, together with the daily programming of the machine start. The system can be remote-controlled with a serial interface connecting to a terminal.



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1. Aired
2. Transmission
3. Electrical Motor
4. Two stages air filter
5. Oil filter with cartridge
6. Easily inspectable Air-Oil cooling unit
7. Three stage Air-Oil Separator
8. Highly Efficient Condensate Separator



## Specifications

Model		Max Pressure		F.A.D.		Power		Noise lev. dB(A)	Weight	
		bar max	Psig max	m3/min	CFM	kW	Hp		kg	lbs
PS 3145-7.5	3	7.5	109	7.8	275	45	60	73	950	2,095
PS 3145-10	3	10	145	6.3	222	45	60	73	950	2,095
PS 3145-13	3	13	175	5.4	190	45	60	73	950	2,095
PS 3155-7.5	3	7.5	109	9.8	345	55	75	73	1050	2,315
PS 3155-10	3	10	145	8.2	289	55	75	73	1050	2,315
PS 3155-13	3	13	175	7.0	247	55	75	73	1050	2,315
PS 3175-7.5	3	7.5	109	12.6	444	75	100	73	1250	2,756
PS 3175-10	3	10	145	10.5	370	75	100	73	1250	2,756
PS 3175-13	3	13	175	8.8	310	75	100	73	1250	2,756



The air flow rates have been measured at the following working pressures:  
 7 bar for mod. 7.5 bar - 9.5 bar for mod. 10 bar - 12.5 bar for mod. 13 bar

The data and performances were recorded in accordance with standard ISO 1217. The sound level was measured in accordance with PNEUROP/CAGI standards.

### Notes:

- All models are CSA approved.
- All models complete with CRN approved for Canada.
- All models factory tested prior to shipment.
- All dimensional data in millimetres.

# OMEGA

## POWER SYSTEM