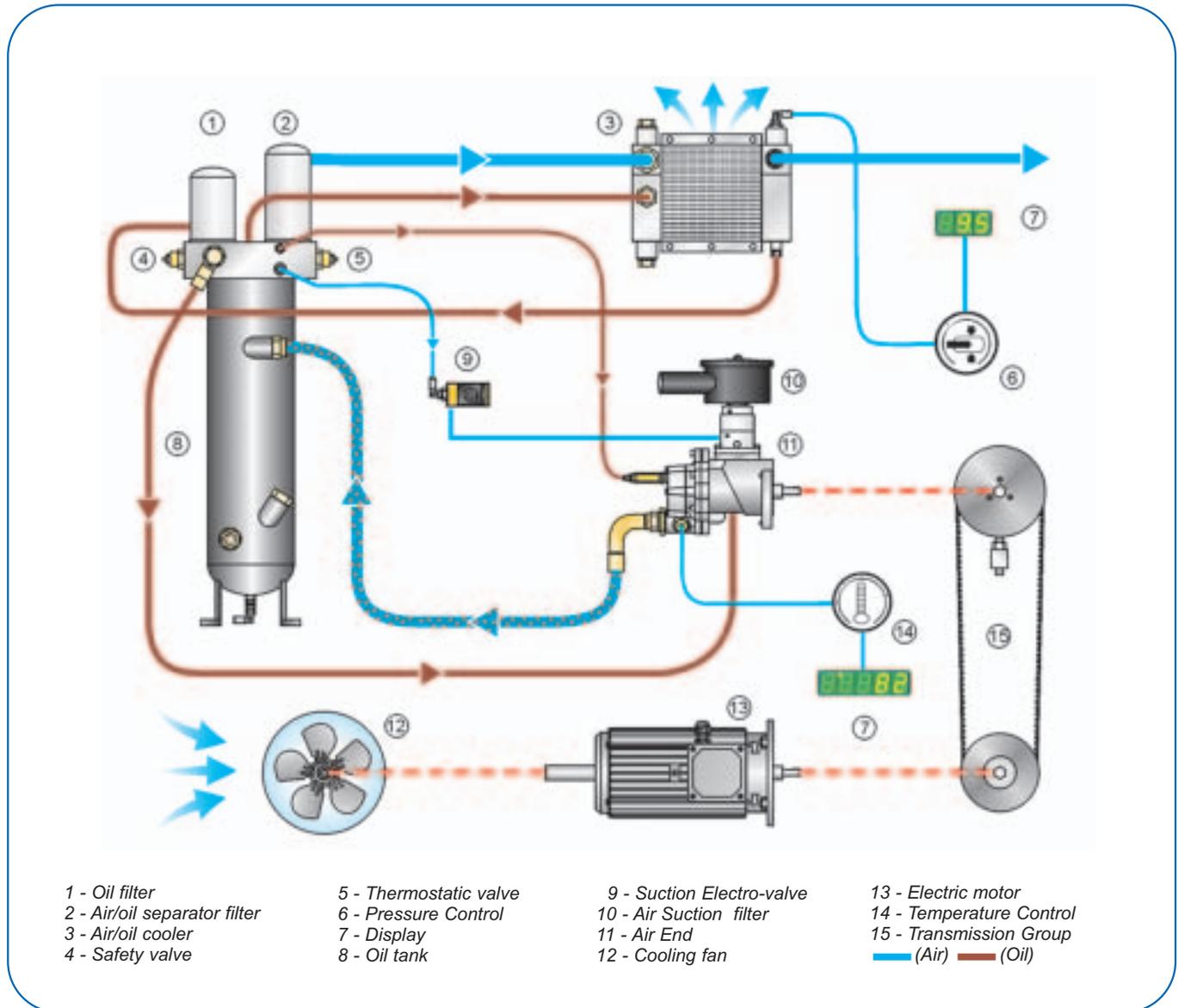




Rotary Screw Compressor  
**CSA 5,5 - 7,5 - 10 - 15 - 20 HP**

**T E C H N O L O G Y   Y O U   C A N   T R U S T**

# Operations Diagram



After pre-filtering, atmospheric air goes through the air intake filter and the suction regulator into the compression chamber, where, mixed with the oil, air is compressed, in a linear and continuous way, reducing its volume, by the two asymmetric rotors of the compression element.

The compressed air-oil mixture is sent into the separator where the oil is separated from the air by a three phases system (centrifugal, gravitational and coalescent).

The compressed air is then cooled by means of a final air cooler before being sent to the distribution network.

A pressure switch system controls the delivery pressure.

Oil is an important element for the compressor, as it guarantees correct functioning of the whole machine. Oil is circulated by the pressure of the compressed air. There are no pumps for circulating the oil.

In the starting phase, lubrication is ensured by the minimum pressure valve, which allows the system to immediately reach the minimum pressure suitable to guarantee a correct oil flow.

As well as lubricating, the oil acts as a sealing element between the rotors and as cooling in the compression phase.

A suitable filter and an effective cooler maintain the optimum characteristics of the oil.

# Rotary Screw Compressor CSA

Silenced dry air  
**INTAKE FILTER**

**COMPRESSOR** with oil  
flooded asymmetric screws

Three-phase IP54  
**ELECTRIC MOTOR**,  
euro-voltage, class F

**TRANSMISSION**  
by means of V belts with  
automatically aligned  
belt tensioner

**OIL RESERVOIR**  
with high efficiency air-oil  
separator filter 2-3 ppm

**OIL LEVEL**  
visible via a sightglass

Combined  
**AIR-OIL COOLER**  
in aluminium with fine fins

**OIL FILTER**

External **PRE-FILTER**  
very easy to remove  
for cleaning



Steel **PLATE BASE**  
handling from three sides

Elegant  
**SOUNDPROOFED BODY**  
with polyester powder paint surface

Control and command  
**MAIN PANEL**  
in a cabinet with a door locked  
with a triangular key

**STAR-DELTA STARTER**  
for start up current reduction

Control and command  
**INSTRUMENT PANEL**  
Main switch

**CONTROL PANEL**  
command and regulation with  
electronic controller ES3000

**SAFETY DEVICES:**  
Motor thermal protection  
High air/oil temperature  
Safety valve  
Minimum pressure valve

## Performance

High performance, silent running, simple installation and maintenance, makes CSA compressor the top class of models currently available in the market.

The use of highly reliable components and the high productive efficiency of our renewed assembly lines, results in a more reliable product.

A rationalised layout, a lower number of components subject to wear and their ergonomic positioning, reduce operating costs.

## High-efficiency compression elements

The two rotors with asymmetric profile, which have the same diameter, are mounted on high quality, low wear ball and roller bearings. The high degree of sealing and the fine tolerances used in the element also guarantees even, in small power ranges:

- GREATER YIELD
- HIGH EFFICIENCY
- LONG LIFE AND RELIABILITY
- LASTING PERFORMANCE

# Easy Maintenance

In designing this series of machines, special attention has been paid to the aspect of "SERVICEABILITY". All the internal parts are easily accessible, and the oil level is visible from the outside, with no requirement to remove any panels.

## Air intake filter replacement

This operation requires removing only the upper panel.



## Ordinary maintenance

- Discharge of condensate
- Oil top-off
- Oil change
- Oil filter replacement
- Oil separator filter replacement

All of these interventions are possible by removing only two panels.



## Replacing and tensioning belts

For the replacement and/or tensioning of the belts, just remove one fixed protection (side panel). The special transmission design ensures proper alignment of the pulleys.



# Regulation • Energy Saving

## ES3000 electronic controller and display

### ELECTRONIC REGULATION

The ES3000 controller installed on the CSA is a control system that was designed for medium and high power compressors.

The Controller permits:

### MANAGEMENT

of all operations relative to the use of the compressor: pressurisation, running dry, stopping and re-starting the compressor;

Control and **REGULATION** of the machine;

### INFORMATION

on possible anomalies;

### SHUT DOWN

of the compressor due to engagement of an alarm;

### VISUALISATION

of information on the machine's maintenance programme.

### KEYBOARD

There are soft touch panels for:

- Starting and stopping the compressor;
- Reset of alarms;
- Using the maintenance menu;
- Controller test operation.

### CONTROLS

Two displays visualise messages indicating all functional conditions of the machine.

The messages are all visible in a simple and clear manner and can be easily interpreted.

Two functional keys and two scrolling keys permit the control and programming of the card.

### SIGNALLING

Appropriate signal lights (LED) indicate the state of the compressor; operating under regulator control, power on, pre-warning and warning of anomalies and for safety purposes.



### THE ELECTRONIC CONTROLLER:

Controls and operates the compressor  
modifies parameters of operation  
transmits information to user

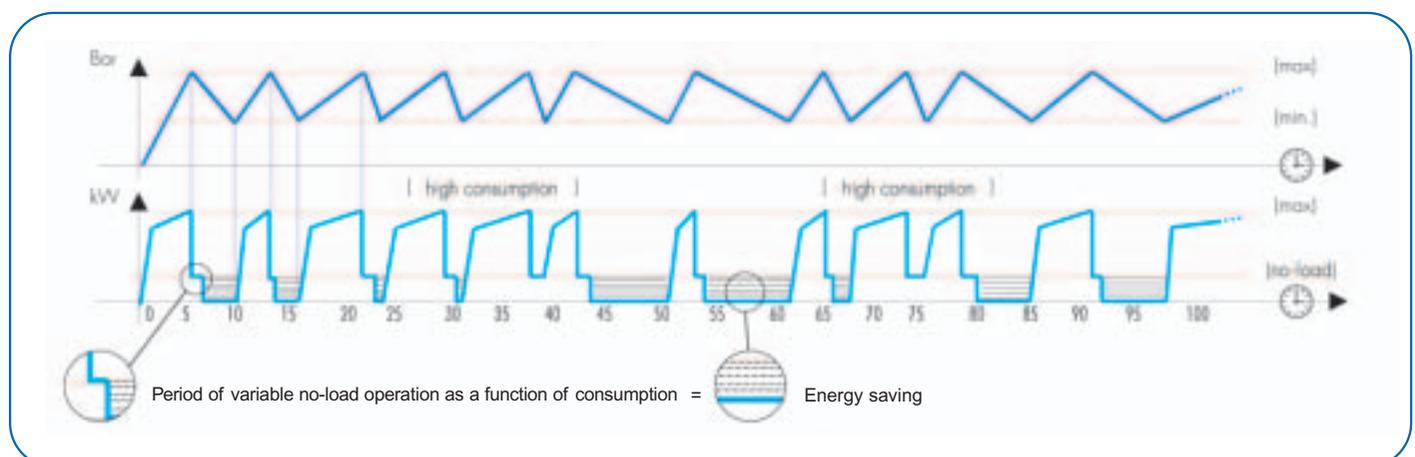
Is equipped with: 8 digital input connections;  
4 analogical input connections;

Controls: 14 digital output devices  
1 analogical output device

It is also equipped with: 1 serial port  
1 interface port.

## Energy savings with “Intelligent Shut-down”

Regulation with the ES3000 controller allows the user to considerably reduce electrical energy consumption in the no-load phase, through the “intelligent shut down” feature, by automatically calculating, cycle by cycle, the minimum no-load functioning time, based on air consumption and the maximum number of start-ups per hour programmed.



Once maximum pressure has been reached, in the absence of air, even due to lack of need, the compressor switches to no – load. The energy saving is obtained by stopping the compressor, following the shortest possible no-load. This ensures:

- that the maximum number of start-ups per hour programmed is not exceeded;
- immediate re-starting in order to satisfy a subsequent air requirement.

# Handling • Silent Running

## Handling

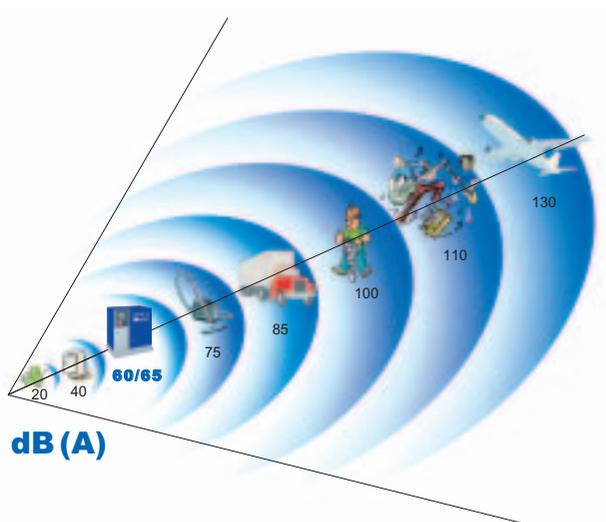
This series of machines was also designed with the problem of transport and/or handling in mind. Accessibility for lifting is allowed on three of the four sides and easy movement is guaranteed by a careful selection of lifting points, positioned so as to obtain a balanced load.



## Silent running

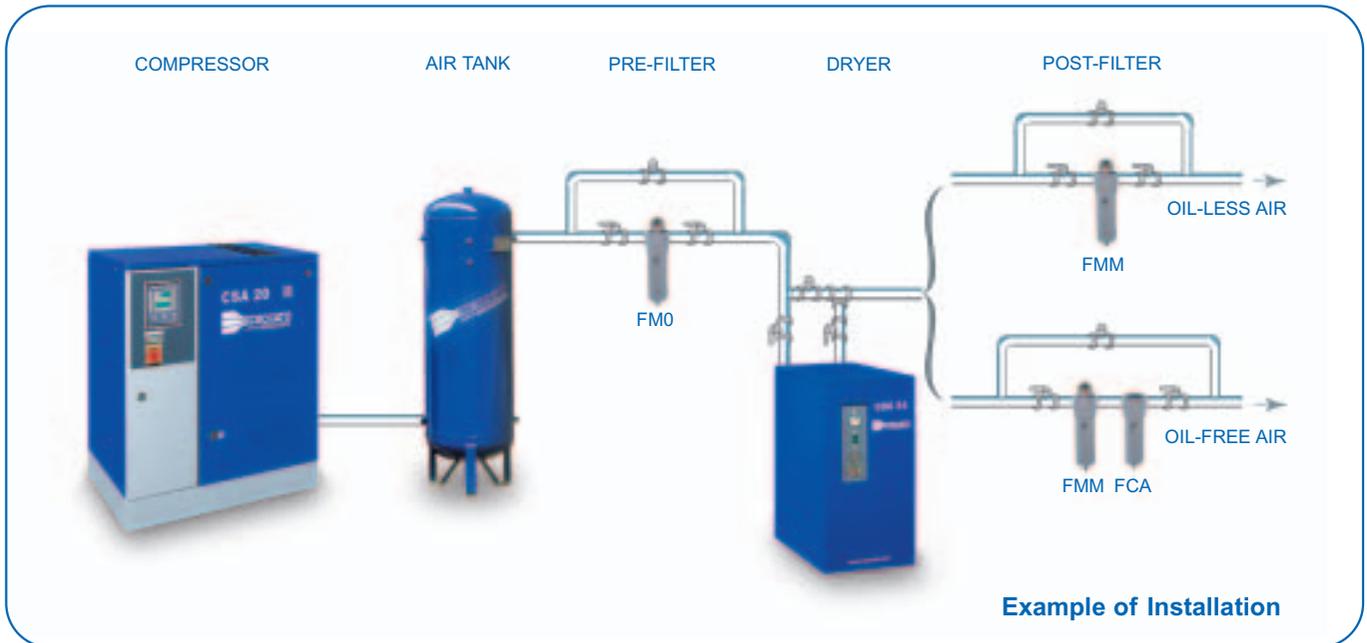
Years of experience have been applied to the issue of noise levels with particular care taken in analysing the air flow inside the machine and the use of suitable panels with anti-noise devices. The care in assembly of the various components, and the absence of transmitted vibrations. All have enabled us to achieve results, which put even the standard version of our machine at the top of the market.

The low noise levels reached allow installation even in working environments or in the immediate vicinity of offices.



# Installation • Maintenance

## Installation



## Scheduled maintenance

with  genuine spare parts:

A production stop due to lack of compressed air is very costly. Having spare parts in house is the only solution to the problem.

To simplify the availability of the necessary materials, Ceccato Aria Compressa S.p.A. offers different KITS to suit services needs:

- 2000 hour KIT: oil filter, air filter
- 4000 hour KIT: KIT 2000 + separator filter and pre filter
- 8000 hour KIT: KIT 4000 + minimum pressure valve, thermostatic valve kit and intake valve kit.



Our Customer Service is always available with a direct number, +390444703984, to offer any assistance you may need.

**TECHNICAL DATA** (ACCORDING TO ISO 1217 E CAGI PNEUROP STANDARD)

Type											
	bar	psi	HP	kW	l/1'	m³/h	cfm	dB (A)	V/Hz/Ph	gas	Kg
<b>CSA 5,5/8</b>	8	116	5,5	4	600	36,0	21,2	60	400/50/3	1/2"	180
<b>CSA 5,5/10</b>	10	145	5,5	4	485	29,1	17,1	60	400/50/3	1/2"	180
<b>CSA 7,5/8</b>	8	116	7,5	5,5	790	47,4	27,9	64	400/50/3	1/2"	195
<b>CSA 7,5/10</b>	10	145	7,5	5,5	630	37,8	22,3	64	400/50/3	1/2"	195
<b>CSA 10/8</b>	8	116	10	7,5	1.120	67,2	39,6	64	400/50/3	1/2"	215
<b>CSA 10/10</b>	10	145	10	7,5	1.000	60,0	35,3	64	400/50/3	1/2"	215
<b>CSA 10/13</b>	13	188	10	7,5	790	47,4	27,9	64	400/50/3	1/2"	215
<b>CSA 15/8</b>	8	116	15	11	1.620	97,2	57,2	63	400/50/3	3/4"	230
<b>CSA 15/10</b>	10	145	15	11	1.400	84,0	49,5	63	400/50/3	3/4"	230
<b>CSA 15/13</b>	13	188	15	11	1.210	72,6	42,8	63	400/50/3	3/4"	230
<b>CSA 20/8</b>	8	116	20	15	2.000	120,0	70,7	65	400/50/3	3/4"	235
<b>CSA 20/10</b>	10	145	20	15	1.790	107,4	63,3	65	400/50/3	3/4"	235
<b>CSA 20/13</b>	13	188	20	15	1.470	88,2	51,9	65	400/50/3	3/4"	235

The Manufacturer reserves the right to make changes to the product in order to improve its quality.

Available versions:

- tank mounted, with and without dryer and filters
- variable speed Inverter driven 10-15-20 HP
- special frequencies/voltages



Design  
Manufacture, Sales and  
Service of air compressors,  
air dryers and air filter

