CompAir

C190TS-12 – C210TS-9

Portable Air Compressors

Intelligent Air Technology

C190TS-12 – C210TS-9 Portable Air Compressors

A new, patented Energy Saving Compressor System

In a highly competitive market CompAir designers were briefed to provide a new range of large output portable compressors with a strong focus on fuel efficiency, whilst providing a light manoeuvrable package, user friendly operation and a high standard of environmental protection.

The latest CompAir Range of TurboScrew portable compressors incorporates technological advances to provide users with an economic and reliable supply of compressed air at outputs of 19 - 21m^3/min. at operating pressures of 8.6 to 12 bar (g).

CompAir's experience in the design and manufacture of high quality portable compressors spans almost 200 years. Today's models are the result of an intensive development program, and deliver the high performance and reliability demanded by users.

Continuing investment in the latest design and manufacturing tools, and rigorous implementation of ISO 9001 approved quality systems ensure you take delivery of a reliable high quality product.

Key Features

Cummins 6 B TT AA 5.9 intercooled turbo charged engine meets level 2 international emission requirements, due in 2003.

Second engine exhaust turbo pre-compressing inlet air to compressor unit achieves large fuel savings compared with conventional compressors. Together with sensitive control of engine power output over a wide range of air delivery, fuel saving of up to 20% of total lifetime costs.

Intercooler between pre-compression and compressor unit further assists energy efficiency.

Proven by one year field trials in 5 continents in extremes of temperature and altitude.

Lightest working weight in class for towing flexibility and easy positioning.

6 auto shutdown systems protect engine and compressor.

Single side accessible maintenance points.

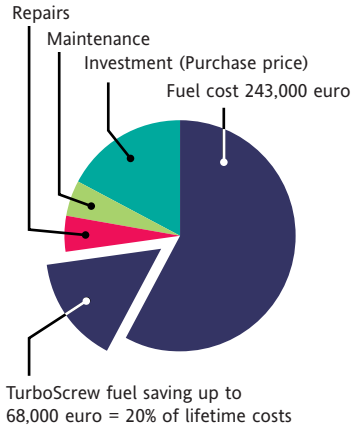
Oil temperature regulating valve for extremely cold conditions.

Aid to cold start down to -30°C.

The TurboScrew technology

A major advance in large portable compressor fuel saving

Total cost of a typical large compressor during lifetime of 10,000 hours assuming fuel cost of 0.8 euro / ltr and 4 part mix of operating mode

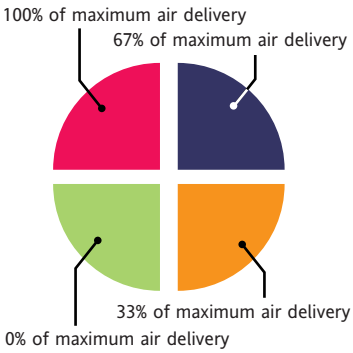


Fuel costs form the largest single item in the whole life cost of a large compressor for contractors involved in civil engineering, construction surface mining, and blast cleaning.

In most of these applications a compressor does not run permanently at full air delivery.

CompAir's research with users shows that there is typically a four part mix of operating modes, at rated pressure, with equal weight to each.

Equal 4 part mix of operating modes at maximum working pressure



Consumption in each mode weighted by this formula will provide the best guide to average fuel consumption and also a guide to likely overall operating costs.

Conventional portable compressors are inefficiently controlled and waste fuel

Many screw compressors have a limited control range, so that when less than 60% of output is used energy starts to be wasted because compressor air intake valve response to air demand and engine speed are not synchronised resulting in wasteful engine power usage.

.... Yet potentially a screw compressor can be more efficiently controlled

The volume of air induction via suction of a screw compressor is a function of its rotor speed whereas achievement of rated working pressure is almost independent of this speed. These characteristics imply that the screw compressor has the potential for a relatively large control range, so that use of minimum operating speeds in conditions of less than full compressed air delivery is not limited by the compressor itself but by the torque characteristics of the diesel engine prime mover selected.

The TurboScrew solution to energy wastage

Turbo screw is a compression system with a radically new approach to energy conservation. It uses a Cummins turbo assisted engine powering a new CompAir screw compressor unit with the addition of an engine exhaust gas driven turbine pre-compressing the suctioned inlet air before it enters the compression chamber.

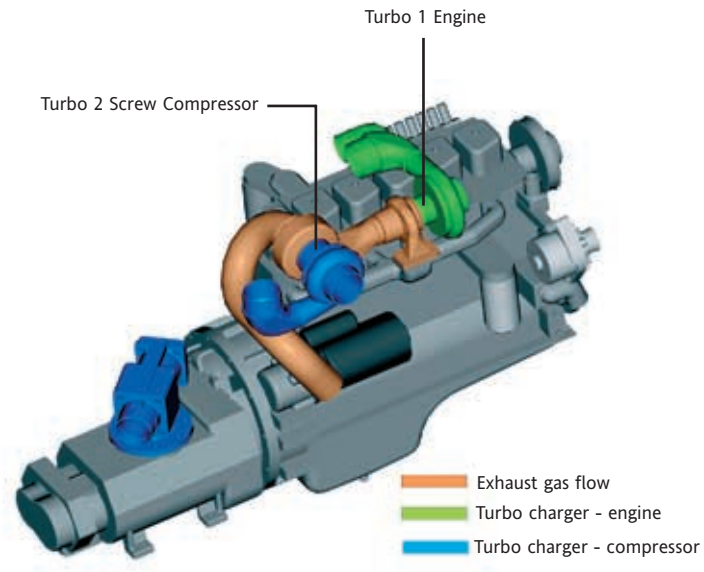
The technical advantages are:

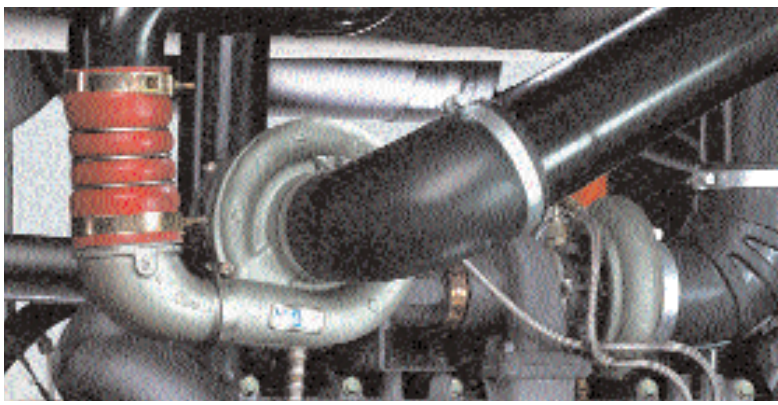
- Two stage compression with intermediate cooling
- Recovery for air compression of 5% of engine power expended in exhaust heat.
- Better synchronisation of engine speed and air intake valve response to air demand over a wide output range. At outputs below 60% of maximum, compressor torque requirement reduces at the lower rotor speeds while torque of the Cummins engine increases at reduced speeds so that fuel is saved.

Your benefit:

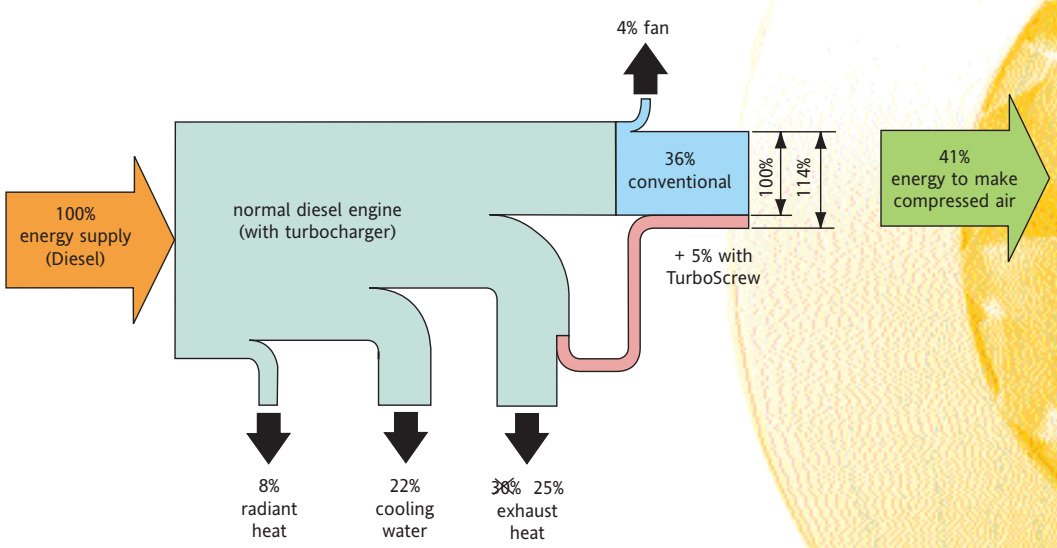
Significantly greater compressor speed range and air delivery in which the TurboScrew compressor operates efficiently.

Based on the '4-part mix' of operating modes, fuel savings of up to 28% compared with conventional compressors of this size representing up to 20% of total lifetime costs.





Energy Efficiency



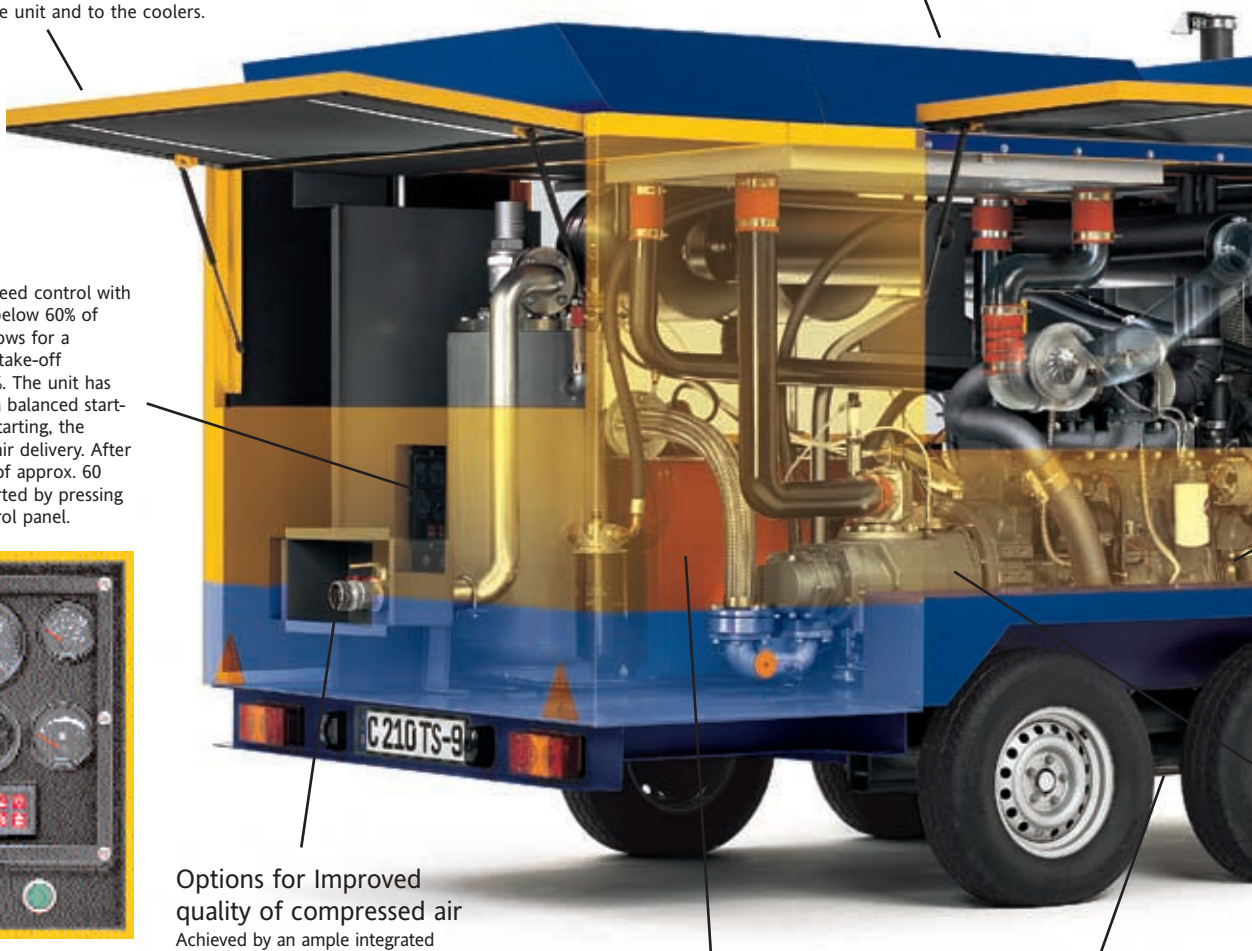
Features

Easy Transportation

of compressor and manoeuvrability on site loading by crane thanks to lifting bale.

Large wing doors

Four large and wide angle opening side and front wing doors supported by gas struts offer easy access to the maintenance points, to the airend / engine unit and to the coolers.



Control

Combined throttle/speed control with large control range (below 60% of maximum output) allows for a stepless volume flow take-off between 0% and 100%. The unit has been equipped with a balanced start-up system i.e. when starting, the engine idles without air delivery. After a warming-up phase of approx. 60 sec. air delivery is started by pressing a button on the control panel.

Options for Improved quality of compressed air

Achieved by an ample integrated aftercooler (air outlet approx. 9°C above ambient temperature), condensate separator and automatic condensate drain, followed by air re-heating if required. Additional micro filters ensure compressed air to ISO 8573.1 standards including ZTV-SIB 90 with a residual oil content below 0.01 ppm.

Tank capacity

370 Litres, sufficient for :
9.5 hours full load operation or
16 hours four-part mix operation.

Low Wet Weight

Wet weight below 3500 kg so that machine can be towed by a car or by 4X4 vehicle (subject to towing regulations in individual countries).

Model		C210TS-9	C200TS-10	C190TS-12
Operational Specifications				
Free Air Delivery at Rated Pressure	m^3/min	21.0	20.0	19.0
Rated Operating Pressure	bar(g)	8.6	10	12
Pressure range	bar(g)	5.0-9.0	5.0-11.0	5.0-13.0
Oil Capacity Compressor System	litres	65	65	65
Engine	Cummins	6BTTAA5.9	6BTTAA5.9	6BTTAA5.9
Full Load Speed	rpm	2400	2400	2400
Idling speed	rpm	1000	1000	1000
Output at Rated Speed	kW	165	165	165
Fuel Tank Capacity	litres	370	370	370
Working Weight (wet)	kg	3280	3280	3280
Overall Dimensions				
Overall Length	mm	5500	5500	5500
Overall Width	mm	1960	1960	1960
Height	mm	2304	2304	2304
Canopy Length	mm	3750	3750	3750
Wheel Track	mm	1720	1720	1720
Ground Clearance	mm	220	220	220
Tyre size		205 R 14C	205 R 14C	205 R 14C
Outlets		1 x 2"ball valve 3 x ¾" B.S.P.		
Noise levels				
Sound Power dB(A) L_{WA}*		102	102	102
Sound Pressure dB(A) L_{PA}**		76	76	76

* Sound power to 84/533/EC
** Sound Pressure to PNEUROP PN8NTC2.2 at 7m

Fully bolted canopy
Individually bolted canopy panels ensure damage can be repaired quickly and at low costs. Galvanised sheet metal, electrostatically powdered and baked at 180 – 200°C avoid corrosion.

Cummins Diesel Engine
Proven robust 6-cylinder turbo-charged diesel engine of Cummins' B-series with an additionally integrated second turbo-charger for the pre-compression of the inlet air of the compressor (TurboScrew System). The second turbo-charger increases the total efficiency of the engine and of the unit. The engine complies already today with Step 2 of the international exhaust emission regulations (to be introduced from 2003).

24 Volt-System
The unit has been provided with a 24 Volt electric system. This ensures sufficient power reserves in case of cold starts and a safe run-up ability.

Airend
CAD-systems with efficient design software, highly developed production processes in mechanical production (NC-/CNC-machines) and highly accurate 3-D test and inspection techniques are standard features of the rotor and housing manufacture. The CompAir profile embodies the latest state of rotary screw technology and represents optimal efficiency.

Options

Built–in aftercooler
with automatic condensate separation. Reduces the moisture content in the compressed air. Additionally followed by built–in air re–heater using the heat of the compressor oil.

Built–in microfilter combination
(in addition to above mentioned aftercooler)
Air treatment with microfilters to ISO 8573.1 standards including ZTV-SIB 90 with residual oil content of < 0.01 ppm.

Base Mount
Allows for permanent installation on site or on the loading deck of a commercial vehicle.

Road lights system
A complete system that conforms with EEC lighting regulations ready to plug into the towing vehicle.

Engine overspeed shutdown valve
An overspeed valve in the engine inlet port ensures immediate shutdown in the event of ingestion of inflammable gas to prevent damage from overspeeding engine.

Exhaust spark arrestor
Safe operation also in difficult areas like refineries etc.

Cold start aid
Enables reliable starting also at ambient temperatures of minus 30°C.

Special paint colour with customer adhesive vinyl
Provides distinctive site identity and assists in traceability in the event of loss or theft.

Intelligent Air Technology

Compressed air solutions for every application

Compressors

0.1 - 43m³/min
0.75 - 260kW

Lubricated

Rotary Vane

Single Stage Screw

Speed Regulated Screw

Piston

Portable

Oil-Free

Two Stage Screw

Water-Sealed Screw

Piston

Portable

Turbo

Complete Accessories Programme

Filters and Dryers

Cooling Systems

Heat Recovery

Condensate Management

Air Receivers

Multi-Set Controllers

Lubricants

Value Added Services

Air Audit

Performance Reporting

Utility Air

Performance Contracting

Complete Service for Compressed Air Technology

Engineering of Complete Compressor Stations

Local Service Centres

Guaranteed Parts Availability

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