

Product Reference
CPS 1600-150
Portable air compressor



Standard Scope of Supply

The Chicago Pneumatic CPS 1600-150 is a single-stage, oil-injected, rotary screw type air compressor, powered by a liquid-cooled, six-cylinder turbocharged Scania diesel engine.

The unit consists of an air end, a diesel engine with exhaust treatment, a cooling circuit, air/oil separation, and control systems. All are enclosed within a sound-dampened steel enclosure.

Special attention has been given to the overall product quality, user friendliness, ease of serviceability, and economical operation to ensure best in class cost of ownership.

Available Model

CPS 1600-150

Single stage – 72 psi to 150 psi- Scania engine



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Features

- DPF-free, Scania T4F engine boasting 493 HP, while meeting EPA RICE NESHAP compliance and featuring a DOT undercarriage, all seamlessly integrated with CSA 139.1 standards
- Patented quick service separator vessel design
- Chicago Pneumatic Xc4004 Compressor Controller, that includes a switch to ease operation of dual pressure mechanical regulating valves
- Portable Full Feature (filtered air)
- Cold Weather
- Forklift pockets & central lifting point
- Low Fuel Shutdown
- Heavy Duty Tandem Dual Axle Trailer with 17.5" wheels
- Telematics ready
- External fuel tank connection

Benefits

- Our equipment meets all US and Canadian regulations, focusing especially on the RICE NESHAP rules for engines under 500 HP. This simplifies operations by avoiding the necessity for different engine models for extended rentals and reduces extra tasks like performance testing and emissions reporting to regulatory agencies.
- Time to change the oil separator filter reduced from 4 hours to less than 15 minutes
- Versatility of the Xc4004 controller gives you the flexibility to tune your machine to a wider range of applications
- The compressor matches the air flow with desired operating pressure to maximize output keeping the engine as fuel efficient as possible. In turn it will increase utilization rate and ROI as it is adaptable to many more applications than a standard machine.
- Chicago Pneumatics' PFF system ensures cool, clean, air, while removing most of the moisture and oil carryover. The PFF system has a by-pass that protects your cooler during cold weather and can be turned off for rentals not requiring after-cooled and filtered air.
- Features required for reliable cold weather operation including synthetic compressor oil and diesel-powered block heater
- Easy and safe maneuver on site
- Reduces downtime on site when operator runs out of fuel as there is no longer a need to "re-prime" the fuel system
- Well balanced for safer towing or moving around site and on highways
- Plug and play wiring harness for easy telematics installation
- Allows longer autonomy with use of an external fuel tank
- Does not require an external fuel pump
- Comes with external quick connects that prevents fuel leaks when maneuvering and disconnecting the hoses

Main Data

Compressor		CPS 1600-150		
Designation	Units			
Normal effective working pressure (pre-set 100 psig and 150 psig)	psi	72	100	150
Actual free air delivery ¹ (FAD) at pre-set pressure setting	cfm	1600	1600	1450
Minimum working pressure	psi		72	
Max. sound pressure level @ 23' (7m) at normal working speed & pressure ²	dB(a)		76	
Compression Stages			1	
Compressor oil capacity	US gal (l)		30 (113.6)	
Air Compressor outlets			1 x 3" NPT	
Max. ambient temperature (at sea level) ³	°F (°C)		122 (50)	
Maximum altitude	Ft (m)		10000 (3048)	
Minimum starting temperature cold weather standard	°F (°C)		-13 (-25)	
Engine		Scania	DC13	
Emissions Regulation	US EPA Tier		T4F	
Output at rated speed (2100 rpm)	HP		493	
Number of cylinders			6	
Aspiration			Turbocharged	
Displacement	(l)		13	
Engine speed (Unloaded)	rpm		1300	
Engine speed (Maximum loaded)	rpm	2100	2100	1900
Engine oil capacity	US gal (l)		11.9 (45)	
Engine oil required			Low Ash Oil per API CJ-4, ACEA C9	
Engine coolant capacity	US gal (l)		19.2 (73)	
Fuel tank capacity	US gal (l)		174 (660)	
DEF tank capacity	US gal (l)		18.5 (70)	
Battery Capacity (Cold Cranking Amps ⁵)	A		2 each 1400	

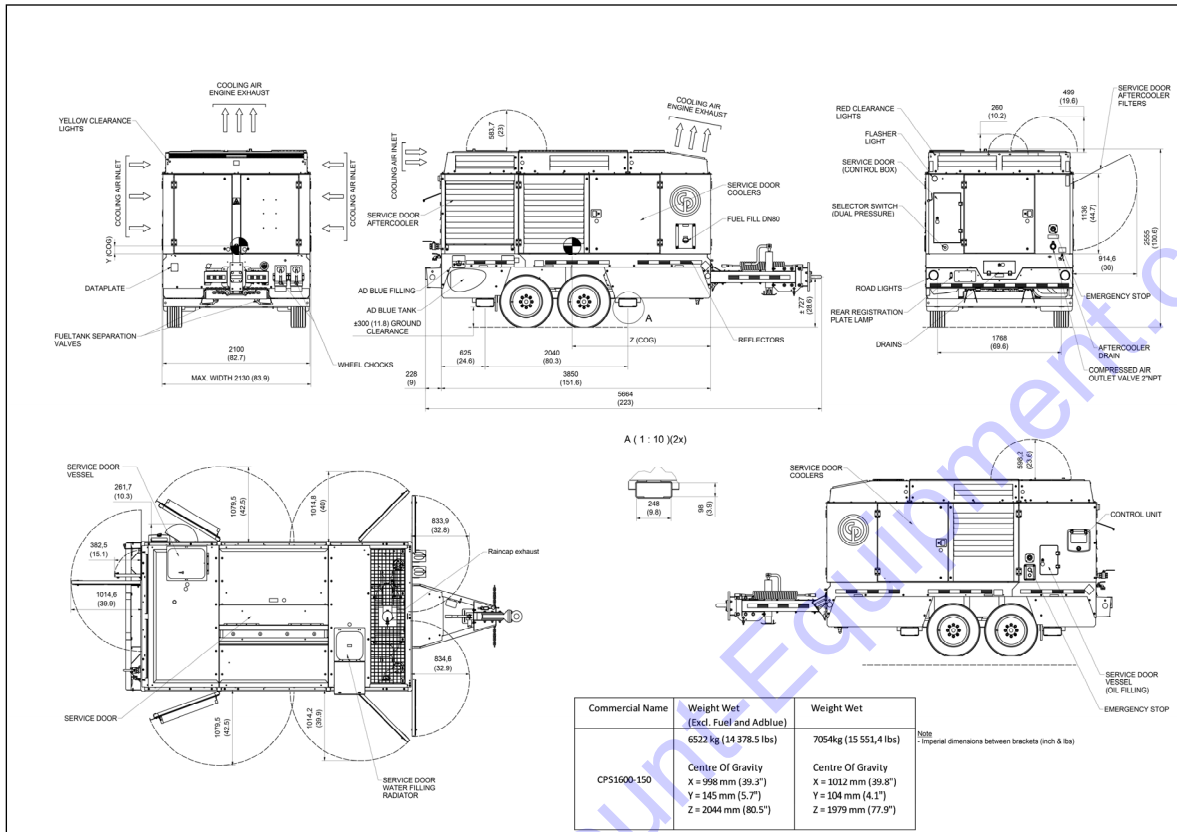
1. According to ISO 1217 ed.3 1996 annex D

2. Measured in accordance with ISO 2151 under free field conditions @ 7m distance

3. Consult Chicago Pneumatic for proper de-rating instructions for operation beyond ambient limitations

4. According to DIN 72311

Dimension Drawing



Principle Data

Compressor Element

The quality of a compressor can be measured through the reliability, efficiency and durability of the compressor elements used. Through decades of expertise in the design of compressor elements, Chicago Pneumatic remains a world leader in designing the most efficient and reliable compressors on the market. With air-end efficiency, maintenance intervals are extended, and fuel consumption is reduced.

The CPS 1600-150 compressor utilizes Chicago Pneumatic C-series low pressure elements, driven from the diesel engine through a gear box with a fibre disc coupler.

The compressor system comes with Chicago Pneumatic GENOIL S synthetic compressor oil. The oil cooler comes equipped with a standard thermostatic by-pass valve for superior cold weather lubrication.

Air/Oil Separator

Air and oil separation is achieved through a centrifugal oil separator combined with a filter element. The separator is ASME&CRN approved.

Designed for a higher maximum working pressure, the separator is equipped with a sealed high pressure safety relief valve, minimum pressure valve, automatic blow-down valve, and pressure regulator.

The patented design of the vessel reduces the time to change the oil separator element to less than 15 minutes.

Compressor cooling system

The cooling system consists of integrated side-by-side aluminum oil coolers with an axial fan to ensure optimum cooling. The cooling system is suitably designed for continuous operation in ambient conditions up to 122°F, with canopy door closed.

Compressor Regulating System

The compressor system consists of air filter, air receiver/oil separator, compressor element, unloader assembly with unloader valve, blow down valve, loading valve and pressure regulator.

Discharge Outlets

Compressed air is available from 1 x 3" NPT outlets.

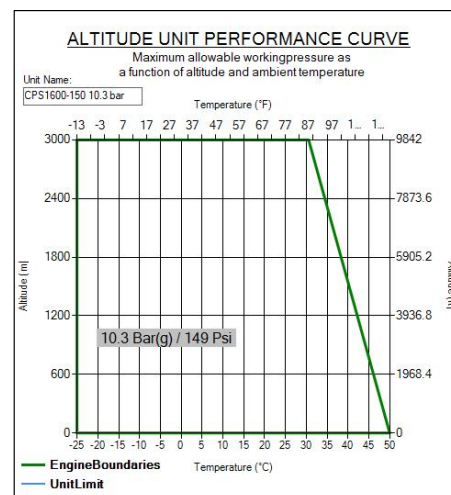
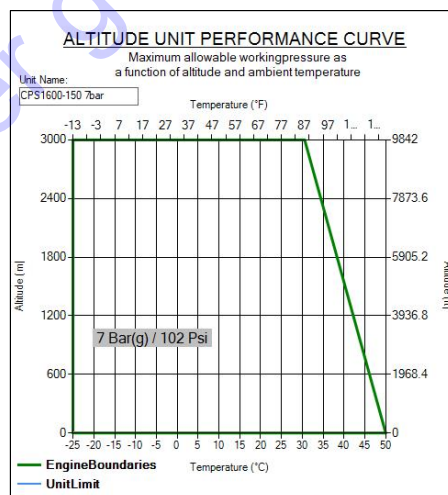
Engine

Scania DC13

Scania DC13 is six-cylinder, liquid-cooled diesel engine provides ample power to operate the compressor continuously at full-load.

Meets all US EPA and Environment Canada exhaust legislations with Tier 4 Final compliance.

The CPS 1600 with the Scania 493 HP engine is complaint with RICE NESHAP requirements for stationary engines.



Electrical System

The CPS 1600-150 is equipped with a 24 Volt negative ground electrical starting system.

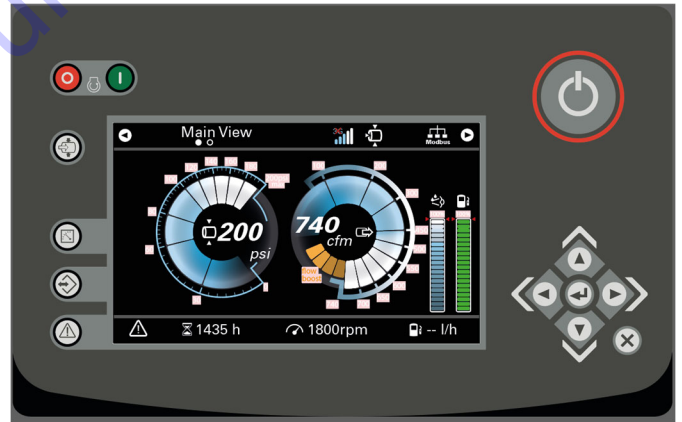
Instrumentation

The instrument control panel is located on the back of the compressor canopy with easy access.

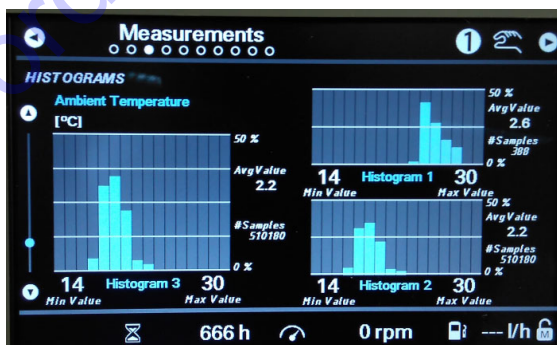
Standard instrument package includes a diagnostic ECU controller with large 7" screen. The intuitive Chicago Pneumatic Xc4004 controller is easy to operate with all functions conveniently at your fingertips. The controller also manages the engine ECU operating system, and a number of safety warnings and shutdowns on various parameters (listed below).

Xc4004 Controller Functionality:

- Main Screen 1
 - Vessel Pressure
 - Fuel & DEF Level
 - Running Hours
 - RPM
- Main Screen 2
 - Vessel Pressure
 - Fuel & DEF Level
 - Running Hours
 - RPM
 - Element Temp
 - Regulating Pressure
 - Battery Voltage
- Measurements
 - Fuel Consumption
 - Engine Coolant Temperature
 - Compressor Element Temperature
 - Vessel Pressure
 - Air Discharge Pressure
 - Inlet Pressure
 - Ambient Temperature
 - Aftercooler Air Temperature
 - E-Stop count
 - Oil Stop Valve Pressure
 - Engine Load
 - Engine Oil Pressure
 - Engine Boost Pressure
 - Fuel Temperature
 - Battery Voltage
 - Regulatory Pressure
 - Loaded/Unloaded Hours
 - Successful/Unsuccessful Starts
 - Service Timers (2 resettable)
- General Settings
 - Engine Diagnostics
 - Auto Start/Load/Stop
 - 30 Languages
 - Units of Measure
 - Auto diagnostic function for the engine
- Alarms
 - Structured alarms can be added to alert in advance to take proactive action
 - Active Alarms
 - Event Log History
 - Alarm Log History



- Histogram: The new Xc4004 gives enables Performance Monitoring System by creating onboard histograms of major parameters like FAD, Engine Load, Highest element temperature, Vessel Pressure, Engine RPM, Fuel Rate etc...



Bodywork

The compressor comes standard with 2 layers Primer and Powder coating metal canopy providing excellent corrosion protection. The canopy is sound attenuated to meet the most current legal noise requirements. Large service doors offer easy service access to all components from all sides of the machine.

Safety Devices

The compressor controls are set up to protect the engine/compressor by shutting off the engine in the event of high engine coolant temperature, Low engine oil temperature, high compressor air discharge temperature or low fuel level.

The starter motor is also protected against overloading from operating for an excessive period or when the engine is running.

Undercarriage

The CPS 1600-150 is available with an undercarriage alternative, providing utmost flexibility in installation or towing requirements.

- Tandem axle trailer setup with: DOT trailer

CPS 1600-150 DOT trailer

General	Frame Structural:
▪ GVWR: 16000 lb	▪ A Frame Drawbar:
▪ GAWR: 9610 lb	• Material: Steel Tube 3 x 6 in x 1/4
▪ Rated Payload: 1700 lb less 1450 Fuel Weight	• Grade: ASTM A500 Grade B
▪ Overall Dimension (L x W x H): 233 in x 83 in x 100 in	▪ Undercarriage Assy:
▪ Est. Empty Weight: 14300 lb	• Material: Angle 3/8 x 3 x 4
▪ Adjustable Hitch heights: 21-30	• Grade: ASTM A36
▪ Tongue Jack: 10000 lbs capacity, Top wind with drop foot	▪ Rear Light Crossmember:
▪ Hitch: 3 inch Eye	• Material: 7 gauge. Steel
▪ Safety Chains: (2) 3/8 in Grade 43 chain with slip hook & safety latch	• Grade ASTM A1011
Running Gear:	Finish:
▪ Axles: 2 X 8000 lb Torflex	▪ Preparation: Iron phosphate conversion treatment, Chromium-free post treatment
▪ Brakes: 12 X 2 Electric	▪ Primer: Epoxy Ester High Solids Primer
▪ Tires:	▪ Paint: Polyurethane Two Component High Solids Enamel (when applicable)
• Size: STR 215/75R17.5 LRH	▪ Paint Color: PPG AUE-300 AU3M95053 (MGS), Jet Black RAL9005 (Low-Gloss)
• Ply: Load Range H 65 psi	Electrical:
▪ Type: High Speed Trailer	▪ Lighting & Reflectors: LED To Federal DOT Requirements
▪ Wheels:	▪ Wire Harness: Type GPT Jacketed harness system with color coded wires and molded plugs
• Size: 17.5 X 6.75 HC	▪ Connection: 7-Way Connection Plug
• Bolt Circle: 8 on 6.5	
• Type: Standard	

Manufacturing & Environmental Standards

The CPS 1600-150 is manufactured following stringent ISO 9001 regulations, and by a fully implemented Environmental Management System fulfilling ISO 14001 requirements.

Attention has been given to ensure minimum negative impact to the environment.

The CPS 1600-150 meets all current EPA and Environment Canada exhaust and noise emission directives.

Supplied Documentation

The unit is delivered with following documentation:

- Hard copies of the Chicago Pneumatic Operators Safety and Instruction Manual, Scania Engine Manual and Parts book, as well as electronic copies, available upon request.
- Warranty Registration card for Scania Engine (Units must be registered upon receipt).
- Test certificate for air delivery pressure and capacity, acc. ISO 1217 (Upon request only).
- Certificate for air/oil separator vessel and safety valve approval, ASME (Upon request only).

Warranty Coverage

Please refer to product presentation for warranty info.

Extended Warranty Programs are available; please contact your local sales representative for more info.



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***Note:** Due to continuous improvements in the products, the technical specifications are subject to change without prior notice.

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