CPS 400E, CPS 500E, CPS 900E

Portable Compressors

Standard Scope of Supply

The Chicago Pneumatic CPS 400E, CPS 500E and CPS 900E have been designed to offer true versatility through compact dimensions and useful and simple analogue controller. Providing exceptional reliability and efficiency, these units are designed to operate in a wide range of applications in the harshest of work environments.

Whether being used indoors or outdoors for back up plant air, industrial rental, in shipyards, mining, general construction work and sandblasting are all within the capability of these units. Many features are included standard (like soft starter, cam locks, breaker, cold weather, etc.) in order to build these units specific from the simplest to most complex specialized application.

Despite the overall compactness these compressors still provide exceptional access to all the service and maintenance points. The compressors are driven by the latest highly efficient IE3 motor ensuring low operational costs and high resale value.

Above all Chicago Pneumatic compressors are built for reliability, easily maintained, CSA/UL compliant, providing many years of trouble-free performance.

Available Models

CPS 400E	Single stage – 400 cfm @150 psi
CPS 500E	Single stage – 500 cfm @150 psi
CPS 900E	Single stage – 900 cfm @150 psi

Features	Benefits
• Analogue controls grouped on one panel as standard.	• Easy to monitor and control.
• Designed with environmental protection in mind.	• The unit comes with a robust frame on a skid “based” with 110% fluid containment, CSA/UL compliant equipment.
• Compact, sound attenuated, corrosion resistant enclosure.	• Unit is enclosed in a sound attenuated Zincor coated steel enclosure.
• 3-layer painting.	• High residual value.
• Long service intervals (2000 hr or 1 year).	• Low operating costs, up to 65% reduction in service cost every 2000 working hours.
• Standard soft start.	• Reduces the inrush current.
• After cooler, water separator no filters.	• Cools down the air and removes moisture.
• External electrical quick connections.	• Easy and fast connections.
• 110% Spillage-free containment frame.	• Protects environment from spill/ leaks, avoids costly clean up.
• Integrated electrical breaker with overload protections.	• Protects your investments.
• Standard heavy-duty skid with integrated forklift pockets and single lifting point.	• Mobility and rental ready. Machine is designed and tested for frequent movement.

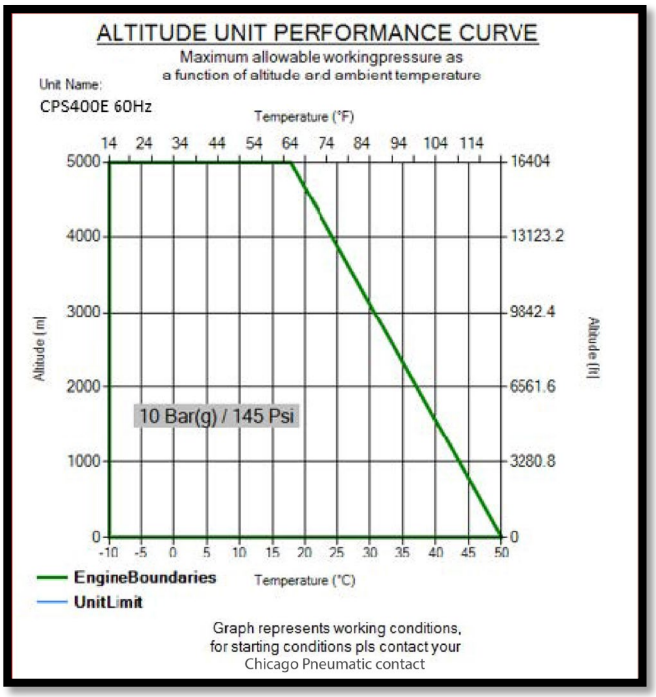
Main Data

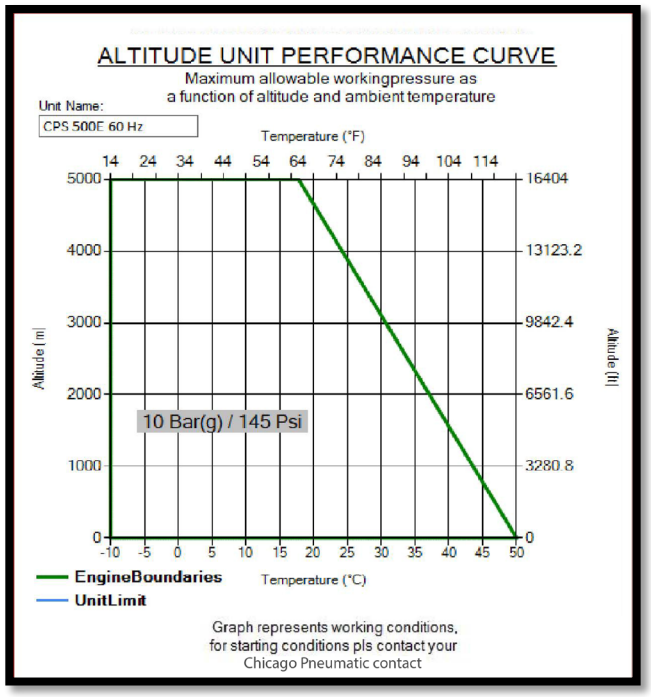
Models	Units	CPS 400E	CPS 500E	CPS 900E
Limitations				
Minimum ambient temperature	°F (°C)	-13 (-25)	-13 (-25)	-13 (-25)
Maximum air inlet temperature	°F (°C)	122 (50)	122 (50)	113 (45)
Minimum effective working pressure	psi	58	58	58
Maximum effective working pressure	psi	150	150	150
Performance data[1]				
Free air delivery [2]				
Effective working pressure at 58 psi	cfm	416	497	902
Effective working pressure at 100 psi	cfm	406	495	888
Effective working pressure at 125 psi	cfm	403	496	880
Effective working pressure at 150 psi	cfm	403	493	871
Main shaft power				
Effective working pressure at 100 psi	kW	60	91	159
	HP	81	122	213
Effective working pressure at 125 psi	kW	67	99	173
	HP	90	133	232
Effective working pressure at 150 psi	kW	72	105	183
	HP	97	140	245
Full load amperage and power	A/kW	151/86	190/108	353/195
Total electrical power input at unload [4][5]	kW	22	26	78
	HP	30	35	105
Aftercooled air temperature discharge (CTD)	Ambient +ºF	9 to 13	9 to 13	9 to 13
	Ambient +ºC	5 to 7	5 to 7	5 to 7
Fan(s) shaft power	kW	3.7	3.7	3.7
	HP	5	5	5
Fan(s) electrical power input	kW	4.1	4.1	4.1
	HP	5.4	5.4	5.4
Typical oil content of compressed air	PPM	0.015	0.015	0.015
Mean sound pressure level [6]	dB(a)	68	67	67

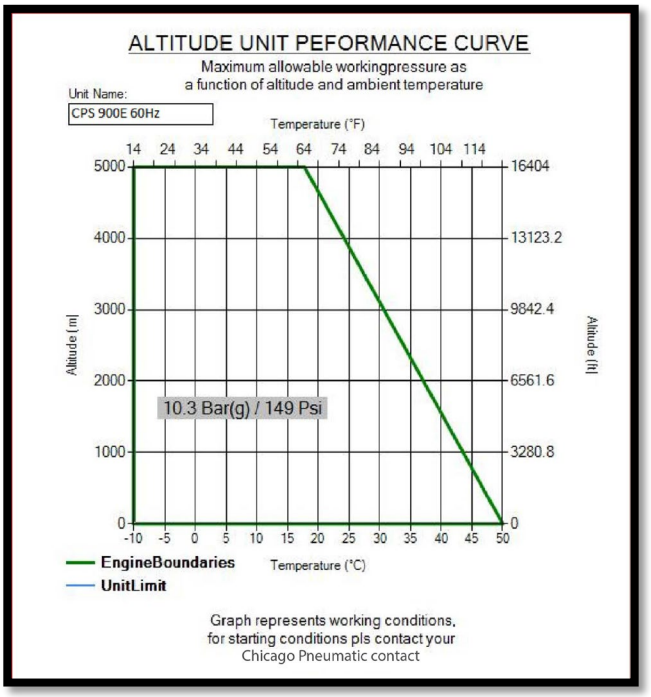
Design Data				
Drive motor installed power	HP	100 HP-cv	125 HP-cv	220 HP-cv
Drive motor name		Motor 3Ph W22 WEG	Motor 3Ph W22 WEG	Motor 3Ph W22 WEG
Housing		250S/M	250S/M	315S/M
Motor shaft speed	rpm	3570	3570	1790
Frequency	Hz	60	60	60
Voltage	volts	460	460	460
Current	A	136/118	190/150	243
Inrush current	A	477	494	840
Service Factor		1.15	1.15	1.2
Ip/In		9.6	9.6	8
I.P.		IPW55 (TFVE)	IPW55	IPW55
Fan Motor				
Name		AT112S-4	AT112S-4	AT112S-4
Housing		112M	112M	112M
Motor shaft speed	rpm	1740	1740	1740
Frequency	Hz	60	60	60
Voltage	volts	460	460	460
Current	A	6.78	7.11	6.6
Service Factor		1	1.15	1
Ip/In		7.4	7	7
I.P.		IP55 (TEAO)	IP55 (TEAO)	IP55 (TEAO)
Oil capacity (approx.)	gal	9	9	14
Machine Dimensions				
Length	in	112	112	133
Width	in	43	43	46
Height	in	72	64	65
Volume	ft^3	201	180	234
Weight				
Wet weight	kg (lb)	1625 (3583)	1771 (3904)	2963 (6532)
Net weight	kg (lb)	1585 (3494)	1736 (3827)	2908 (6411)

1) At reference conditions, unless otherwise stated and according to ISO 1217, third edition, annex C.
2) Corresponds to 'Actual Volume Flow Rate' (ISO 1217, third edition, annex C). Measured according to ISO 5167-2. Guaranteed with a tolerance of ± 4% for units with a Volume Flow rate above 66 gallon per second. Guaranteed with a tolerance of ± 5% for units with a Volume Flow rate from 7 to 66 gallon per second.
3) Guaranteed with a tolerance of ± 5% for units with a Volume Flow rate above 66 gallon per second. (ISO 1217, third edition).
4) Power requirement at zero volume flow rate measured according to ISO 1217 ed. 4 2009, annex C Tolerance 10%.
5) Supply voltage 460V (for 60 Hz units). Data may differ 0.5% maximum at other supply voltages.
6) Sound pressure level at 23 ft. Measurement according ISO2151:2014.
7) A-weighted emission sound pressure level at the workstation (LpWSAd). Measured according to ISO 2151: 2004 using ISO 9614/2 (sound intensity method). A total correction factor for uncertainties of 3 dB has to be added conform the test code. Possible noise from discharge line, accessories and/or ancillary equipment is not included. For more information about noise levels, see printed matter 9780 0380 10, "Compressed Air Manual 1998", Section 3.9.
8) Guaranteed with a tolerance of ± 20%.

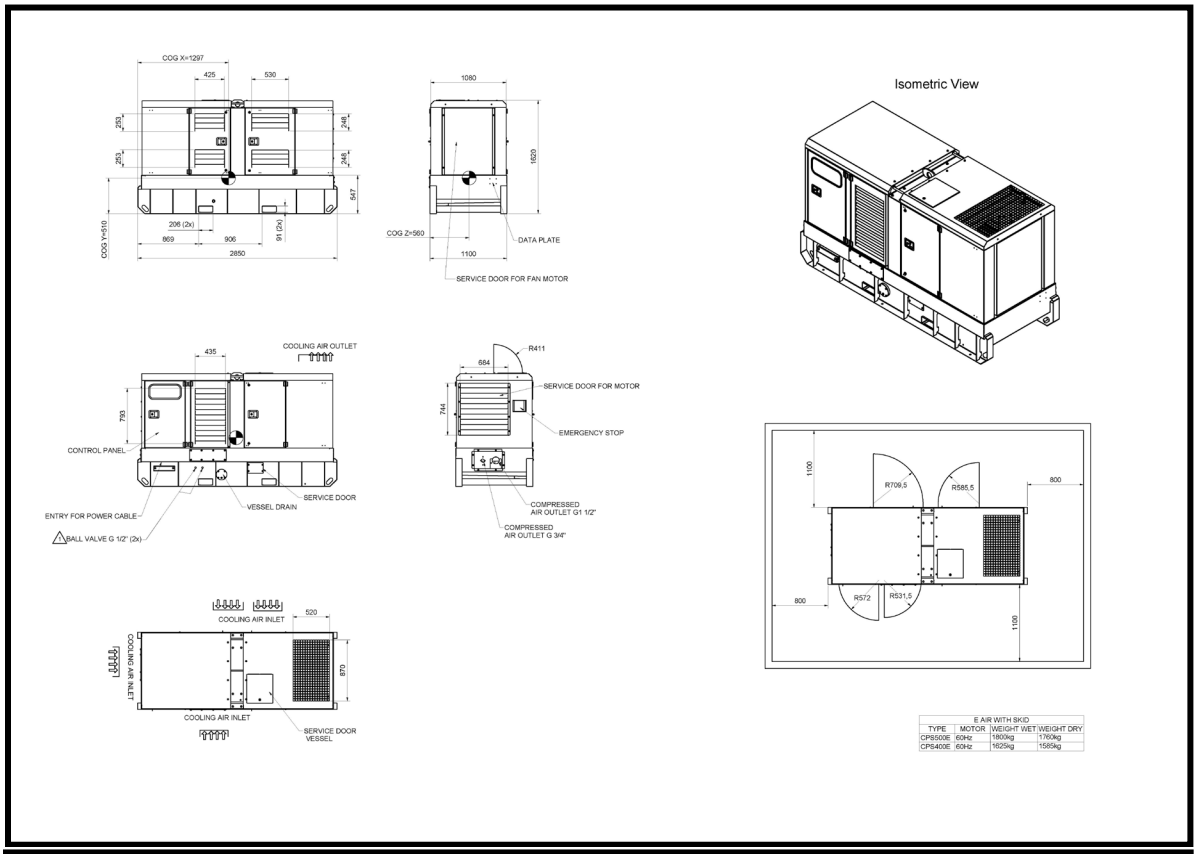
Altitude Curves

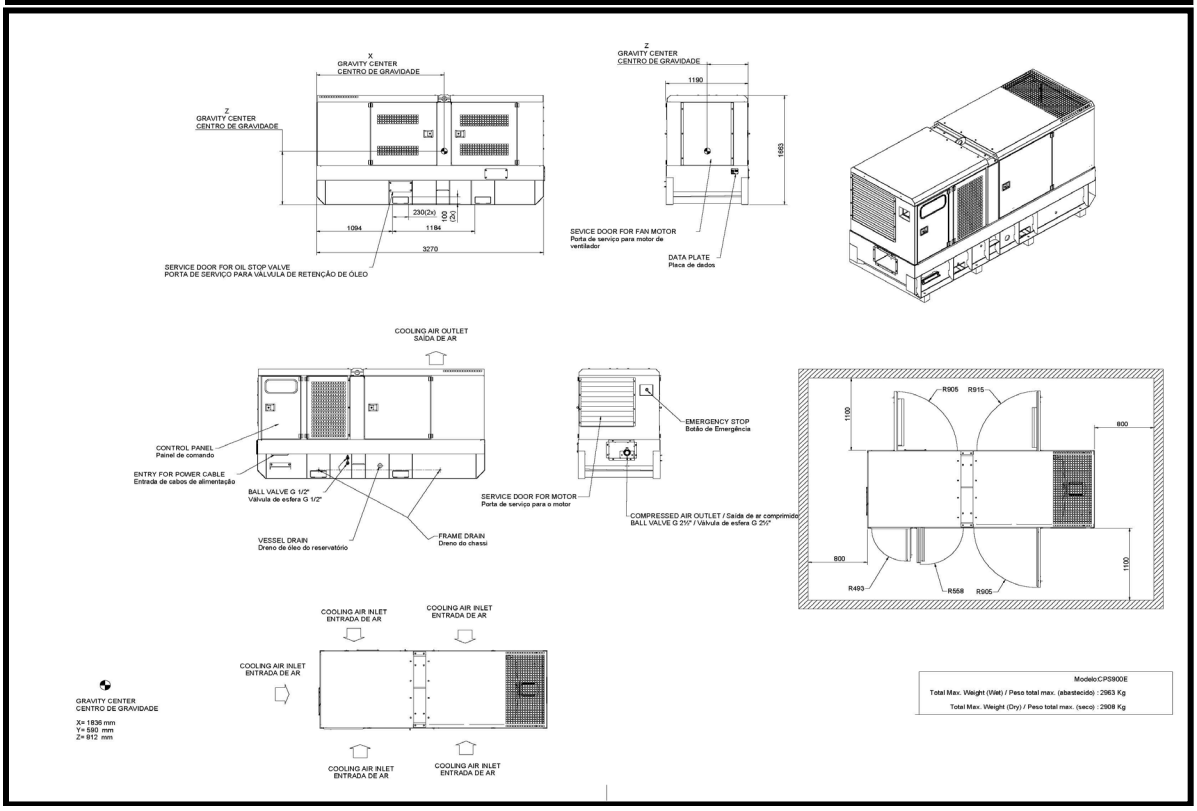






Dimension Drawings





Principle Data

Compressor Element

The quality of a compressors can be measured through the reliability, efficiency and durability of the compressor element used. Through decades of expertise in the design of compressor elements, the result is the production of most efficient and reliable compressors in the market. When the screw element is efficient durability excels, maintenance intervals decrease, and energy consumption goes down.

Air/Oil Separator

Air and oil separation is achieved through a centrifugal oil separator combined with a filter element. Vessel is ASME approved and stamped accordingly.

Designed for easy maintenance, the new improved design reduces the time to change the oil separator from 2 hours to less than 15 minutes without touching the scavenge lines, the separator is equipped with a high-pressure seal, certified safety relief valve and automatic blow-down valve.

Compressor Regulating System

The compressor regulating 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 3 x $^{1}/_{2}$" and 1 x $^{1}/_{2}$" NPT outlets for CPS 400E and CPS 500E.

Compressed air is available from 2 x 2 $^{1}/_{2}$" NPT outlets for CPS 900E.

Motor

WEG

High efficiency CE and CSA/UL compliant motor provides ample power to operate the compressor continuously at full load. Motor output at rated speed is 100 HP for CPS 400E, 125 HP for CPS 500E and 220 HP for CPS 900E.

The Motor has the capability to start the compressor to -13 °F (-25 °C) without the addition of a cold start aid.

Electrical System

Instrumentation

The instrument control panel is located on the side of the compressors and closed with a canopy's door for safety and protection.

Standard instrument package includes an hour meter, operating pressure gauge, start button, load-unload switch and diagnostic shutdown indicator lamps.

Safety Devices

The compressors are standard equipped with safety devices for the compressor and the motor. The unit will be completely turned off should:

- Compressor oil temperature rise too high
- Wrong phase sequence connection
- Short circuit
- Motor overload
- High air temperature

Controls (analog simple control panel), breaker and soft starter standard

Soft starter model WEG SSW07

Benefits :

- Elimination of mechanical shocks.
- Full electronic protection of the motor.
- Longer lifespan of the motor and equipment.
- Limitation of voltage drops at the start.
- Built-in bypass, providing size reduction and energy savings.
- Great reduction of the stresses on the couplings and driving devices (gear boxes, pulleys, gears, belts, etc.) during the start.
- Operation in environments up to 55 °C (without current derating for all models).

Bodywork

The compressors are delivered as standard with a zincor coated steel canopy with powder coat paint finish providing excellent corrosion protection. The canopy is fully sound attenuated, meeting the most current legal noise requirements. The hood concept door provides complete service access to all components.

The standard colour combination is Chicago Pneumatic red and RAL 9011 black; however, other colour combinations are also available on demand.

Undercarriage

The CPS 400E, CPS 500E and CPS 900E are available with an undercarriage alternative, providing utmost flexibility in installation or towing requirements.

- Skid mounted.
- DOT trailers:

CPS 400E / CPS 500E DOT trailer	CPS 900E DOT trailer
GVWR: 6600 lb	GVWR: 11000 lb
Overall dimension (L x W x H): 179 in x 71 in x 24 in	Overall dimension (L x W x H): 190 in x 86.5 in x 22.5 in
Tongue jack: 7000 lbs capacity, Top wind	Tongue jack: 10000 lbs capacity, Top wind
Hitch: 3 in Eye, Height: 26 in, Adjustable: ± 2 in with Safety chains	Hitch: 3 in Eye, Height: 26 in, Adjustable: ± 2 in with Safety chains
Axles: (2) – 3000 lb Dexter Torflex	Axles: (2) – 5000 lb Dexter Torflex
Brakes: Electric with breakaway system	Brakes: Electric with breakaway system
Tires: ST205/75R15 LRC on 15 in wheels with 6 bolts	Tires: ST225/75R15 LRC on 15 in wheels with 6 bolts
Fenders: 12 Ga. Galvanneal with anti-skid tape	Fenders: 12 Ga. Galvanneal with anti-skid tape
Wiring: Double jacketed harness with 7 blade RV style plug	Wiring: Double jacketed harness with 7 blade RV style plug
Lights: LED to Federal DOT requirements	Lights: LED to Federal DOT requirements
Accessories: (4) Tie down D rings	Accessories: (4) Tie down D rings

Supplied Documentation

The unit is delivered with documentation regarding:

- Hard copies of the Chicago Pneumatic operator's safety and instruction manual.
- Chicago Pneumatic parts book, motor manual and parts book are available in electronic copies only upon request.
- Certificate for air/oil separator vessel and safety valve approval (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.

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