

# CPS 185 KDU T4F

## Utility Mounted Compressor



### Standard Scope of Supply

The **CPS 185 KDU T4F** is a single-stage oil-injected rotary screw type air compressor, powered by a liquid-cooled, four cylinder diesel engine.

The unit consists of an air end, diesel engine, cooling circuit, air/oil separation and control systems - all enclosed with an 1000 hour salt spray tested zinc rich primer steel canopy enclosure.

It is in a Utility Mounted enclosure designed for mounting on truck decks, factory and locally installed options are available.

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 Models

CPS 185 KDU T4F

single stage - 100 psi –Kubota engine

### Standard Features

- 49Hp Engine with 185 CFM Free Air Delivery
- Low Fuel Shutdown
- Central point drains
- Curbside control panel
- Protective shutdown system

### Benefits

- 185 CFM free air delivery @ 2.3Gal/hr (8.3L/hr)
- Direct drive compressor, no gearbox required which saves horsepower and fuel
- Reduces downtime on site when operator runs out of fuel as there is no longer a need to “re-prime” the fuel system
- All fluids and service points plumbed to edge of the machine for ease of maintenance while mounted on a truck
- Allows ease of use for the operator
- Prevents damage to the compressor

**Technical Data**

Compressor	Units	CPS 185 KDU T4F
Actual free air delivery <sup>1</sup> (FAD)	cfm	185
Normal effective working pressure	Psi	100
Maximum unloading pressure	Psi	125
Minimum working pressure	Psi	58
Max. sound pressure level @ 23' (7m) at normal working speed & pressure <sup>2</sup>	dB(a)	76
Compression Stages		1
Air Receiver Capacity	US Gal (L)	4.5 (17)
Compressor oil capacity	US Gal (L)	2.25 (8.55)
Approximate air outlet temperature	°F (°C)	200 (93)
Air Compressor outlets		2 x ¾" NPT
Max. ambient temperature (at sea level) <sup>3</sup>	°F (°C)	125 (51)
Maximum altitude	ft (m)	5,900 (1,798)
Minimum starting temperature (without cold weather options)	°F (°C)	14 (-10)
Minimum starting temperature (with cold weather options) <sup>4</sup>	°F (°C)	-13 (-25)

Engine	Kubota	V2403-CR-EF02
Emissions Regulation	US EPA	Tier 4 Final
US EPA Engine Family		HBXL02.4END
Output at rated speed (2700 rpm) <sup>5</sup>	HP	49
Number of cylinders		4
Aspiration		Naturally aspirated
Displacement	cu in (L)	147 (2.4)
Engine speed (Unloaded)	rpm	1600
Engine speed (Maximum loaded)	rpm	2700
Engine oil capacity	US Gal (L)	2.75 (10.5)
Engine coolant capacity	US Gal (L)	2.5 (9.5)
Fuel tank capacity	US Gal (L)	25 (94)
Fuel consumption at 0% load	Gal/Hr (L/Hr)	0.94 (3.55)
Fuel consumption at 100% load	Gal/Hr (L/Hr)	2.3 (8.3)
Electrical System (Negative Ground)	V	12
Battery Capacity (Cold Cranking Amps) <sup>6</sup>	A	1100

<sup>1</sup> According to ISO 1217 ed.3 1996 annex D

<sup>2</sup> Measured in accordance with ISO 2151 under free field conditions @ 7m distance

<sup>3</sup> Consult Chicago Pneumatic for proper de-rating instructions for operation beyond ambient limitations

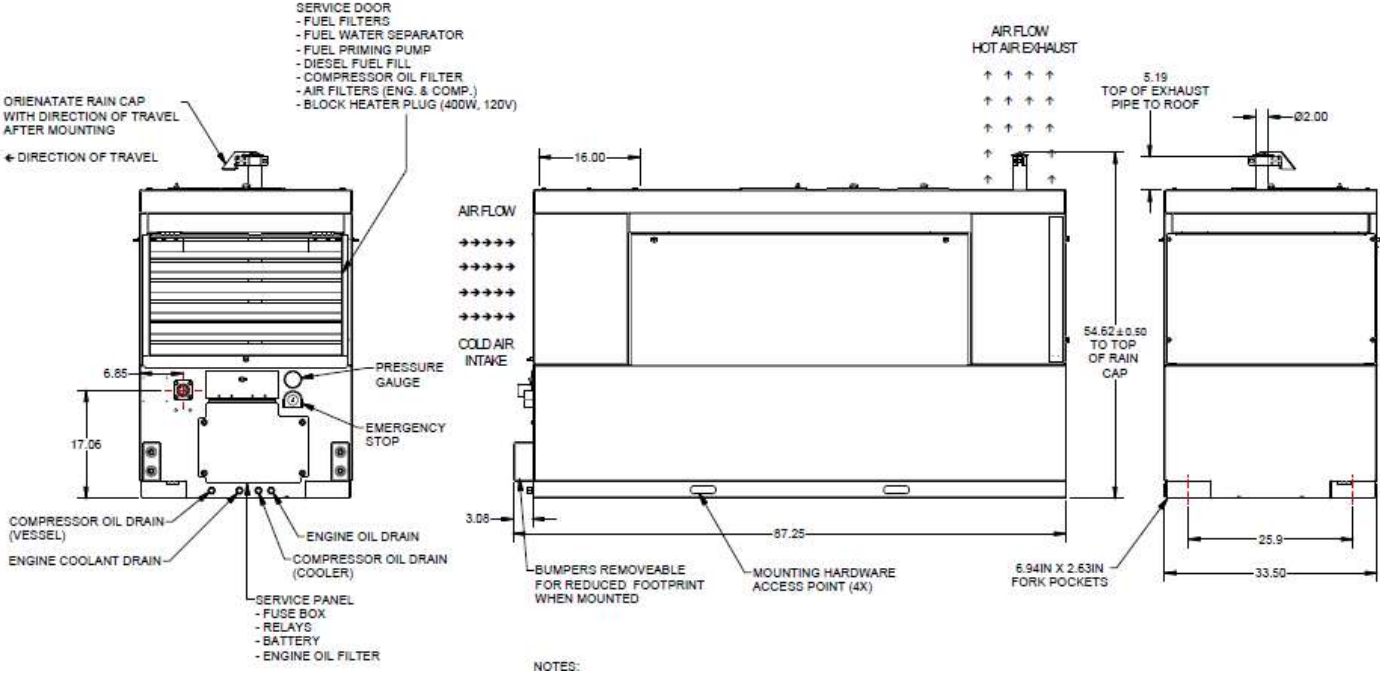
<sup>4</sup> Cold weather kit recommended for operations below 32°F

<sup>5</sup> Horsepower limited by Engine ECU

<sup>6</sup> According to DIN 72311

Dimensions

Utility Mounted Compressor



Weight (Wet - Ready-to-operate)

		CPS 185 KDU
Utility mounted compressor	lb (Kg)	2115 (959)

Dimensions

		CPS 185 KDU
Utility mounted compressor (Inches)	L x W x H	87.25 x 34 x 55

## Principle Data

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### Compressor Element

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The quality of a compressor 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 fuel consumption goes down.

The CPS 185 KDU T4F compressor utilizes Chicago Pneumatic's C111 which element is directly driven from the diesel engine with a fiber disc coupler. No gear box means less horse power required to produce the same volume of compressed air.

Inlet air is filtered through a heavy duty two stage air filter.

### Air/Oil Separator

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Air and oil separation is achieved through a centrifugal oil separator combined with a filter element. Separators are ASME/CRN approved versions and are stamped accordingly.

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

#### Air/Oil Separator Tank:

Volume	4.5 US Gal / 17 L
Certifications	ASME / CRN
MAWP	170psi @ 248°F

### Cooling System

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The cooling system consists of integrated side-by-side aluminum oil cooler with axial fan to ensure optimum cooling. The fan is protected by a guard for operator safety. There is an access port at the front of the machine for easy cleaning

The cooling system is suitably designed for continuous operation in ambient conditions up to 125°F, with canopy door closed.

### Compressor Regulating System

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The compressor regulating system consists of two stage air filter, air receiver/oil separator, compressor element, blow down valve, and pressure safety valve.

Economic power consumption is assured by the fully automatic 100% step-less speed regulator that adapts engine speed to air demand.

### Discharge Outlets

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Compressed air is available via outlet flange sized 1¼" NPT with Y valve dual ¾" claws.

## Engine

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### Kubota V2403

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Kubota V2403 Tier 4 Final, naturally aspirated, four-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 US EPA engine family is "HBXL02.4END". The engine utilizes a Diesel Particulate Filter with active regeneration to help meet Tier 4 Final emissions. All functionality of the engine and exhaust after treatment are controlled automatically on the XC2003 controller.

Engine output at rated speed, in accordance to SAE Standard, is 49hp at 2700 rpm, as limited by the engine ECU.

The engine has the capability to start the compressor to 14°F (-10°C) with standard glow-plug aid. Cold start options are available for up to (TBA).

The 25 Gal (94L) fuel tank is sufficiently sized to operate the unit for minimum of 8 hours at full-load condition.

The unit comes standard with a Kubota 400W 120V Block Heater

## Electrical System

The **CPS 185 KDU T4F** is equipped with a 12 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 an operating pressure gauge, and fully diagnostic ECU controller with large 3.5" display. The intuitive Chicago Pneumatic XC2003 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 shut downs on various parameters (listed below).

### XC2003 Controller Functionality:

- Displayed while running
  - Hours
  - Fuel level
  - RPM
  - Outlet pressure
- Operational Buttons
  - Start and stop of the unit
  - View measurements, settings and alarms
  - Multi position cursor to navigate menus
- Compressor measurements displayed
  - Running hours
  - Fuel level
  - Clock
  - Battery voltage
  - Running hours
  - Regulating pressure
  - Emergency stop count
  - Average fuel consumption
  - Minor and major service counters in hours and days
- Engine measurements displayed
  - Current fuel rate
  - Engine coolant temperature
  - Engine oil pressure
  - DPF Soot level
  - Engine RPM
- Warnings and Shutdowns
  - High temperature engine coolant
  - High temperature compressor oil
  - Engine oil pressure
  - Low fuel level
  - High DPF soot level
- Alarms
  - View current & historical alarms present
  - History of last 20 alarms and events with time and date stamps
  - DM1 & DM2: View current engine codes (SPN/FMI)
- Settings
  - Manual regeneration of DPF
  - Reset service timers
  - Diagnostics for engine ECU
  - Language settings
  - Unit of measure changes



## Bodywork

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The compressor comes standard with metal canopy that has a 2 layer protective coating (Primer base and Powder Coated top layer) providing excellent corrosion protection. The canopy is sound attenuated to meet the most current legal noise requirements. Side access doors offer easy service access to all components from both sides of the machine.

## Factory Options Available

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- Cold weather package (includes: synthetic compressor oil)
- O.S.H.A. Valve 3/4"
- Outlet Flange 90 Degree

## Manufacturing & Environmental Standards

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The **CPS 185 KDU T4F** 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 185 KDU T4F** meets all current US EPA, CARB and Environment Canada exhaust and noise emission directives.



## Supplied Documentation

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The unit is delivered with documentation regarding:

- Hard copies of the Chicago Pneumatic Operators Safety and Instruction Manual, Kubota Engine Manual and Parts book, as well as electronic copies available on request.
- Warranty Registration card for engine and Chicago Pneumatic Compressor (Units must be registered upon receipt).
- Certificate for air/oil separator vessel and safety valve approval, ASME/CRN (Upon request only).

Warranty Coverage

**Kubota Engine:** Two (2) years / 2,000 hours of operation (whichever occurs first) & Major Component Warranty (MCW) for three (3) years / 3,000 hours (whichever occurs first) warranty from Kubota Engine America. Unit must be registered directly with Kubota upon receipt to be eligible for warranty. Failure to register warranty upon initial startup may cause warranty claim delays or rejection of claim by Kubota.

**Chicago Pneumatic Compressor:** Warrantied to be free from defects with regard to material and workmanship for the period of eighteen (18) months from date of shipment from the factory, or twelve (12) months from date of initial start-up, whichever occurs first, without limitation of running hours.

Air compressor element assemblies used in Chicago Pneumatic portable air compressors, is warranted to be free from defects with regard to materials and workmanship for the period of thirty (30) months from date of shipment from the factory, or twenty four (24) months from date of initial start up, whichever occurs first, without limitation of running hours. Chicago Pneumatic service kits including parts and oils (PAR Oil's) must be used to maintain warranty. Failure to register warranty upon initial start-up may cause warranty claim delays or rejection of claims.

<p><b>PRODUCT: Portable Compressors</b></p>	<p>EXTENDED WARRANTY PERIOD*: 24 months from date of end of initial standard warranty term. For the compressor's air system **, the warranty period is an additional 96 months from the end of the 24 month extended warranty term. For the engine, see Footnote 1 below.</p>
<p>* Requirements for Extended Warranty;</p> <ul style="list-style-type: none"> <li>· Service maintenance must be completed according to published intervals while utilizing genuine Chicago Pneumatic parts and lubricants. Record of such maintenance must be entered onto Machines Online for the specific serial number and include all required information including date service performed, service interval performed, and part numbers used.</li> <li>· Oil sample (engine or compressor) to be taken at any time of failure and available upon request             <ul style="list-style-type: none"> <li>· Oil sample kit part number 9753300442 available for purchase</li> </ul> </li> <li>· Unit must be available for onsite inspection by a representative of Power Technique North America if required</li> <li>· Unit must be available for transport to a Power Technique North America service center location if required</li> <li>· Failed components must be retained and available for return and inspection if required</li> </ul>	
<p>** Air end system component exclusions: Electrical components (i.e. Sensors, wiring), Perishable items (i.e. Rubber, plastics), Wear and air regulation items (i.e. Check valves, couplings)</p>	
<p>Note: End users are authorized to complete the required preventative maintenance utilizing genuine parts and lubricants purchased from an authorized dealer. Service maintenance recorded into Machines Online are to be completed by the authorized dealer where products purchased or another authorized dealer after providing proof of purchase for genuine parts and fluids utilized..</p>	
<p>Note: Equipment/machinery/components/Accessories/parts/items sold by SELLER but not manufactured by SELLER or an affiliate (including but not limited to a Product's engine, alternator, tires, battery, carrier, electrical equipment, and hydraulic transmission, if applicable) are not warranted by SELLER and shall carry whatever warranty (if any) which the manufacturer has conveyed to SELLER to the extent it can be passed on to the purchaser.</p>	