



Dynapac CEV IV Soil Compactor & Tandem Roller

**CLEANER
GREENER
SMARTER**

CEV IV - New Emission Standard

NOx	Oxides of Nitrogen (NO & NO ₂)
CO	Carbon Monoxide
HC	Unburned Hydrocarbons
PM	Particulate Matter (soot, ash, sulphates)

Objectives

- Targeting “Near Zero” Emission.
- Reduce PM emissions by 90%, and NOx emissions by 80%.

How?

In cylinder combustion control	HC, PM, NOx
High pressure common rail injection	HC, NOx, PM
Diesel Oxidation Catalyst (DOC)	HC, CO
Variable geometry turbocharging (VGT) Diesel Particulate filter (DPF)	PM
Exhaust Gas Recirculation (EGR) Selective Catalytic Reduction (SCR)	NOx

After Treatment Systems

Exhaust Gas Recirculation: EGR works by recirculating a portion of an engine’s exhaust gas back to the engine cylinders. This dilutes oxygen in the incoming air stream and act as a absorbent of combustion heat to reduce peak temperature in cylinder.

Diesel Oxidation Catalyst: DOC is a device that consists of a canister containing a honeycomb like structure or substrate. The substrate has a large surface area that is coated with an active catalyst layer made of Palladium and Platinum (Catalytic Converter).

- As the exhaust gases traverse the catalyst oxidation occurs.
- Oxidation catalysts can reduce more than 90% of the CO and HC emissions.

Selective Catalytic Reduction: SCR is a simple after treatment system which converts NOx in the exhaust stream into harmless gases.

Diesel Exhaust Fluid or AdBlue: is a non-toxic solution of purified water (67%) and Urea (33%). DEF from a storage tank is injected into the exhaust stream, and the exhaust and finely atomized DEF enter the SCR catalyst chamber together.

CEV IV - Ready For Future

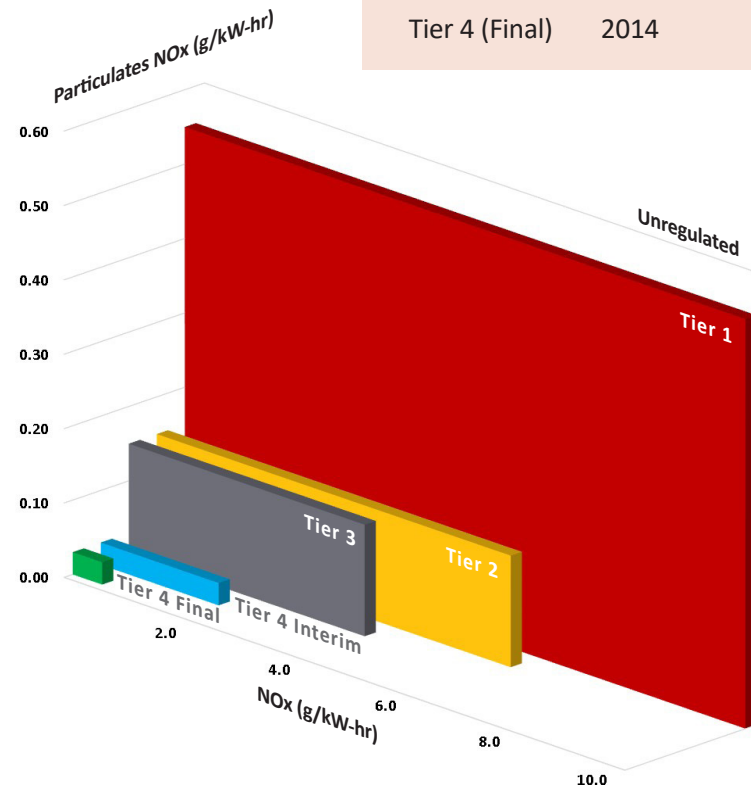
Designed for future needs to meet emission standards.... towards a greener future.

- ▶ New engine technology for better fuel burning efficiency.
 - Ideal combination of electronic, fuel, air and aftertreatment components reduces NOx by 80% and PM by 90%.; Reduction in amount of unburnt fuel as compared to BSIII.
 - After treatment is DOC+SCR (engine mounted): No requirement of regeneration and maintenance, no operator intervention required.
 - Ad blue consumption is max 5% of diesel consumption. Ad blue tank is of 16-liters capacity, to be able to maintain same filling.
- ▶ Big reduction in exhaust pollutant by implementation of aftertreatment, depending on the engine performance classes.
- ▶ CEV IV applies to engines above the 75HP – Dynapac implemented for both Soil compactor CA305D, CA385D & Tandem rollers CC425 machines.

Emission Standard for CEV-Bharat Stage

Bharat Stage Norm's	Category	CO	HC	NOx	HC + NOx	PM
BSIII	19 ≤ kW ≤ 37	5.5	-	-	7.5	0.6
	37 ≤ kW ≤ 75	5.0	-	-	4.7	0.4
	75 ≤ kW ≤ 130	5.0	-	-	4.0	0.3
BSIV	37 ≤ kW ≤ 56	5.0	-	-	4.7	0.025
	56 ≤ kW ≤ 130	5.0	0.19	0.4	-	0.025

US EPA Non-Road Regulations
(130 - 560 kW)



Tier 1	1996
Tier 2	2001-2003
Tier 3	2005-2006
Tier 4 (Interim)	2011
Tier 4 (Final)	2014

CLEANER

TECHNOLOGY WITH OPTIMISED CONSUMPTION

Enhanced performance with optimized energy needs.

- ✔ Dynapac features the “Efficiency Eccentrics” system, wherein eccentric elements has been optimized, so that we need lower start-up torque.
- ✔ With a Static linear load of 31 kg/cm the Dynapac CA305 ensures faster compaction.
- ✔ The new CA305 is offering a Dual speed traction system with limited slip axle. Depending on the speed and climb ability situations there will be a solution for everyone.



**EFFICIENCY
ECCENTRICS**



GREENER

New features for better performance

Improved control that offers optimize cost and quality

◆ RPM control in hands

New electronic engine with engine rpm can select through keypad, Low and high idle speed (Dual speeds in CA305 and CC425) can be selected from IP protected keypad.

◆ Fuel saving smart feature

New electronic engine helps to introduce Auto Idling, In FNR neutral condition, if engine is running at high idle speed for more than 10 sec, speed will drop to low idle automatically making operation more economical by saving fuel.

◆ Seat switch

Special feature of seat switch makes it more prominent by making sure to alert the operator when machine is in running condition while operator is not on seat. Pop up displays on screen with buzzer sound for 4 seconds. If issue is not attended than engine automatically shuts off after 4 seconds. It not only saves fuel but also ensures safety, so that operator should not lean out of seat when engine is running.

◆ Hassle free vibration control with AVC

Introducing AVC (Automatic Vibration Control) feature for operator convenience in new CA305 and CC425 machine. Once AVC activated, vibration will get automatically activated as FNR moves in forward and reverse direction. No need to activate and deactivate vibration through switch at the start and end of every pass. It also prevents marks in the ground when machine change direction from forward to reverse and vice versa.



SOIL COMPACTOR CA305

Dynapac now comes up with transformed top quality soil compactor with CEV-IV engine. The new Dynapac CA305 designed with the concept of “Cleaner, Greener, Smarter”. This soil compactor is designed keeping all stakeholders and environment in mind. Whether you are the machine’s owner, contractor, operator or belong to the maintenance team, you will be most impressed with the Dynapac CA305.

► **Better Visibility:**

The new unique design offers 1m x 1m visibility. Drum surface are easily visible.

► **Comfort Seat:**

Supports hours of work.

► **Optimised Eccentrics:**

Redesigned eccentric system for better fuel efficiency & economy.

► **Drum with Cartridge System:**

Low maintenance cost with lower drum oil.

► **CEV-IV Engine:**

110 HP engine turbo charged engine with DOC+SCR (engine mounted) after treatment system, no operator intervention required.

► **360 degree vision:**

Complete view of the machine surroundings.

► **Foldable canopy:**

For easy transportation.



CA305 Highlights

Low Engine Emission and Air flow

CEV-IV Engine layout designed to enter cool air behind the platform and exist hot air from rear of machine. It helps lot to maintain atmospheric temperature around the operator.



New Display

Control panel is combination of reliable IP protected Carling make switches and keypad, having night illumination. Compact layout of switches is arranged ergonomically.

Digital LED color display with cool white backlight for night vision.

Compact display with selector screen mode provision which gives more useful information. This display is reliable for open environment.








Ergonomic Design

The new Dynapac CA305 soil roller continues to impress with the new platform design. The operator experiences a much-appreciated smooth driving environment. Further key elements for the operator are an easy-to-understand digital display console with a LED display with cool white backlight for night vision. Other convenient features such as mobile phone charging and bottle holder also enhance the operator's ergonomic work environment.



TECHNICAL DATA

 Masses	CA305	CA305D	CA305PD
Operating Weight, Kg	11,200	11,400	12,800
Front Module Weight, Kg	6,600	6,800	8,250
Rear Module Weight, Kg	4,600	4,600	4,550
Static Linear Load, Kg/cm	31	32	-
 Traction			
Speed (low/high)	Dual	Dual	Dual
Machine Speed (Working/Travel), km/hr	0 - 5.5 / 0 - 11	0 - 5 / 0 - 8	0 - 5 / 0 - 8
Gradeability (%)	34	45	36
Steering Angle	± 38 °	± 38 °	± 38 °
Oscillation Angle	± 9 °	± 9 °	± 9 °
 Compaction			
Centrifugal Force (High/ Low), kN	250 / 130	250 / 130	250 / 130
Frequency (High/Low), Hz	33 / 33	33 / 33	33 / 33
Amplitude (High/Low), mm	1.8 / 0.9	1.8 / 0.9	1.2 / 0.6
 Engine			
Manufacturer/Model	KOEL (4R1190TA)	KOEL (4R1190TA)	KOEL (4R1190TA)
Type	Liquid cooled	Liquid cooled	Liquid cooled
Rated Power	110 hp @ 2,200 rpm	110 hp @ 2,200 rpm	110 hp @ 2,200 rpm
Fuel tank capacity	280	280	280
Emission Norms	CEV-IV	CEV-IV	CEV-IV
Hydr. Tank Capacity, L	52	52	52
 Dimension			
Overall Length, mm	5,600	5,600	5,600
Overall Width, mm	2,260	2,260	2,260
Wheelbase, mm	2,290	2,290	2,290
Overall Height / Height with Canopy, mm	2,400 - Folded canopy 2,977 / 2,977 - Overall	2,400 - Folded canopy 2,977 / 2,977 - Overall	2,400 - Folded canopy 2,977 / 2,977 - Overall
Drum Width, mm	2,130	2,130	2,130
Drum Diameter, mm	1,500	1,500	1,500
Drum shell thickness, mm	25	25	25
No. of Pads	-	-	120
Area of Pads, mm²	-	-	145
Pad Height, mm	-	-	102
Seat Adjustment	F/W and Rev direction	F/W and Rev direction	F/W and Rev direction



TANDEM ROLLER CC425

Dynapac present new designed tandem roller with lots of specification and keeping efficiency in mind: application efficiency, operator efficiency, compaction control efficiency, and service efficiency. Improved performance with all new CEV-IV engine, better visibility, operator comfort, compaction control, and serviceability for the CC line will appeal to owners, operators, and service crews. The environmental benefits will impress everyone.

► Operator Platform:

Spacious operator platform with comfort seat & Swiveling mechanism along with console facilitate ergonomics, proves to be an efficient layout for operator.

► Sprinkler System:

3-point filtration with easy accessibility and operational double water pump.

► Low Emission:

Fuel efficient and low emission CEV-IV KOEL engine.

► Steering Hitch:

Heavy duty steering hitch assembly.

► Improved Operation:

Increased curb height enables easy working on national highways.



► Nightwork Efficient:

Easy night work. Experience the clean visibility with standard LED working at night work.

► Better Visibility:

The new unique design offers 1m x 1m visibility. Drum surface & sprinkler nozzles are easy visible.

► New Display:

More information, new color display.

► Water Capacity:

Larger water capacities increase operational time between water refill breaks.

► Scrapers:

Easy Manually adjusted 2 scrapers per drum.

CC425 Highlights

Comfortable and Supportive Seat

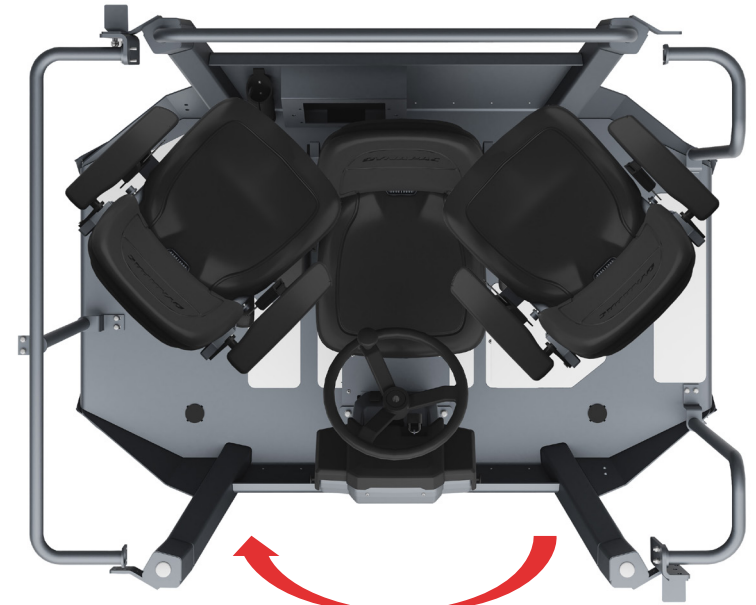
The new cushion seat is highly comfortable and eye catchy. The astonishing feature makes operator comfortable to sit on it, ergonomically designated and supports hours of work.

Armrest Servers the needed comfort and **120° swivel** with six locking positions can run smoothly on platform providing the best possible operating experience.



Clearly visible drum and Sprinkler system

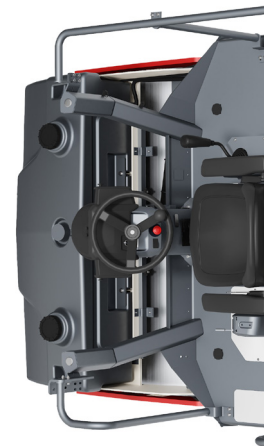
In CC425 sprinkler system arrangement is mounted at machine center which makes it perfect in terms of easy accessibility. Arrangement CC425 is designed keeping it operator friendly with clear visibility and accessibility of all nozzles. Drum surface is clearly visible as well.



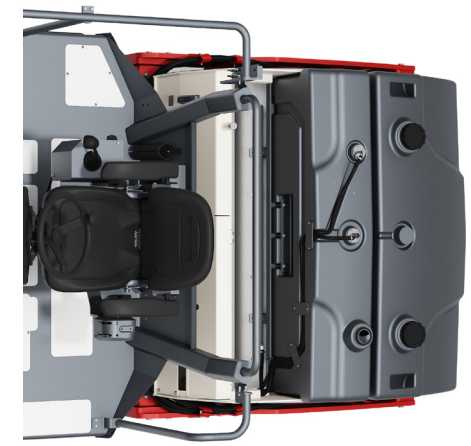
Seat swivelling by 120°

Sprinkler timing duty control in your hand

Added sprinkler timing duty control in CC425. Sprinkler timing control with keypad & controlled through CAN with more accuracy in duty cycle.








Operator View
(Front)



Operator View
(Rear)

TECHNICAL DATA

 Masses		CC425
Operating Weight, Kg		9,200
Max. Gross Weight, Kg		9,600
Front Module Weight, Kg		4,600
Rear Module Weight, Kg		4,600
Static Linear Load, Kg/cm		27.2 / 27.2
 Traction		
Gradeability (%)		39
Steering Angle		± 28 °
Oscillation Angle		± 7 °
Machine Speed (Working/Travel), km/hr		0 - 6 / 0 - 12
 Compaction		
Centrifugal Force (High/ Low), kN		130 / 60
Frequency (High/Low), Hz		54 / 36
Amplitude (High/Low), mm		0.9 / 0.4
 Engine		
Manufacturer/Model		KOEL
Type		Liquid cooled
Rated Power		74.5 hp @ 2,200 rpm
Fuel tank capacity, l		180
Emission Norms		CEV-IV
Water Tank, l		800 (2 x 400)
 Dimension		
Overall Length, mm		4,340
Overall Width, mm		1,885
Wheelbase, mm		2,785
Overall Height / Height with Canopy, mm		3,140
Drum Width, mm		1,690
Drum Diameter, mm		1,220
Drum shell thickness, mm		17
Seat Adjustment		F/W and Rev direction
		Swivelling across platform width



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