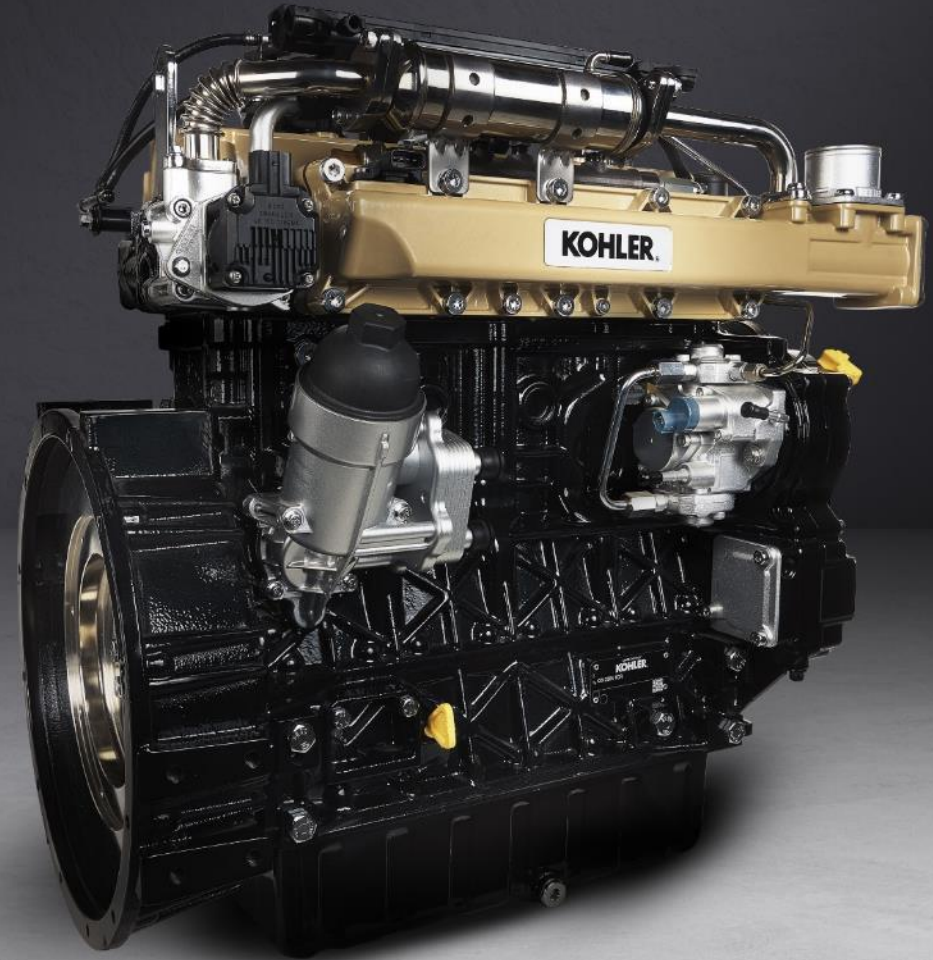


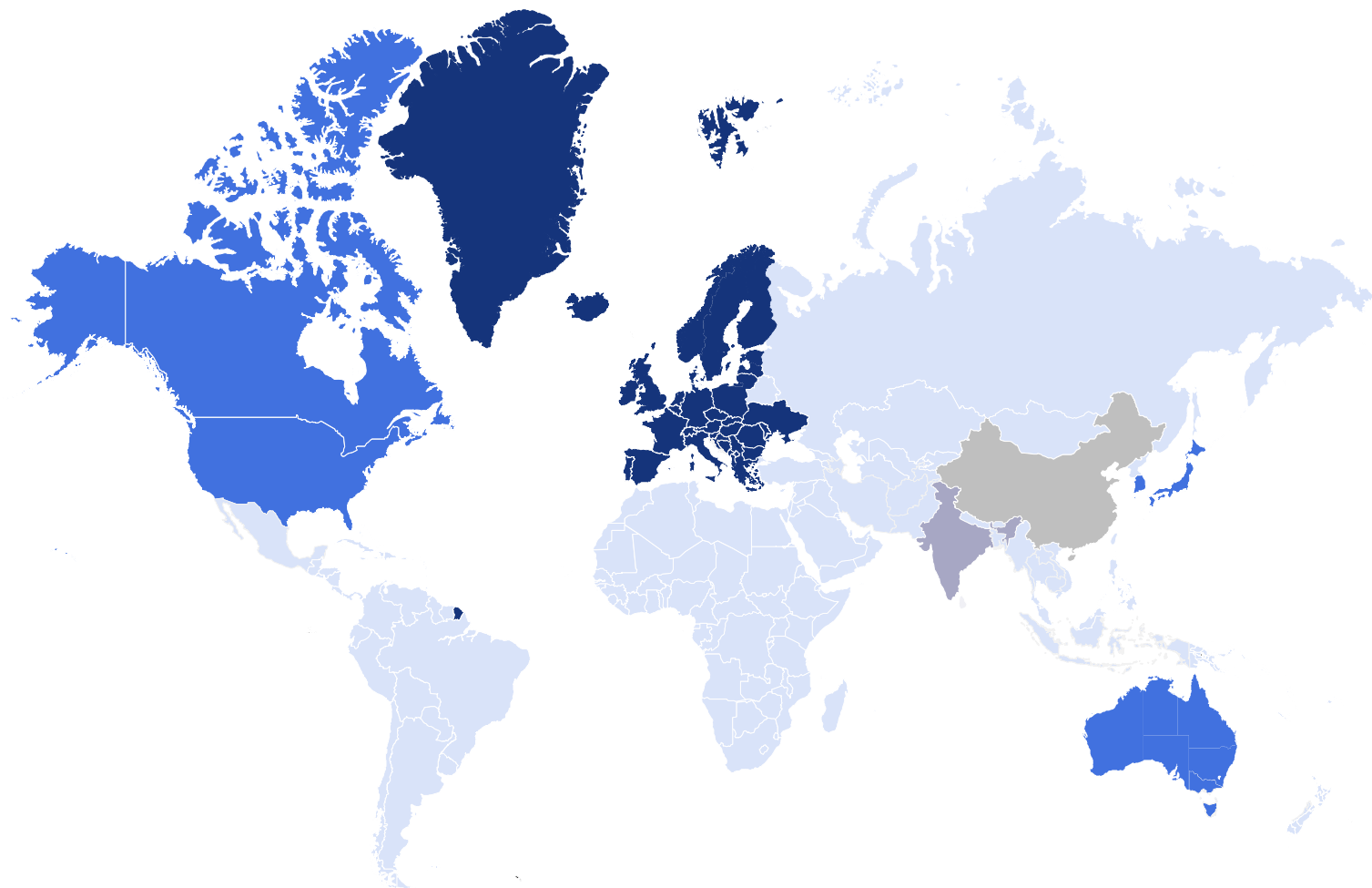
KOHLER. | Engines

Demo Days 2024

KDI 2504 TCR

Antonio Riccio, July 2024





EU EMISSIONS

US EMISSIONS

INDIA EMISSIONS

CHINA EMISSIONS

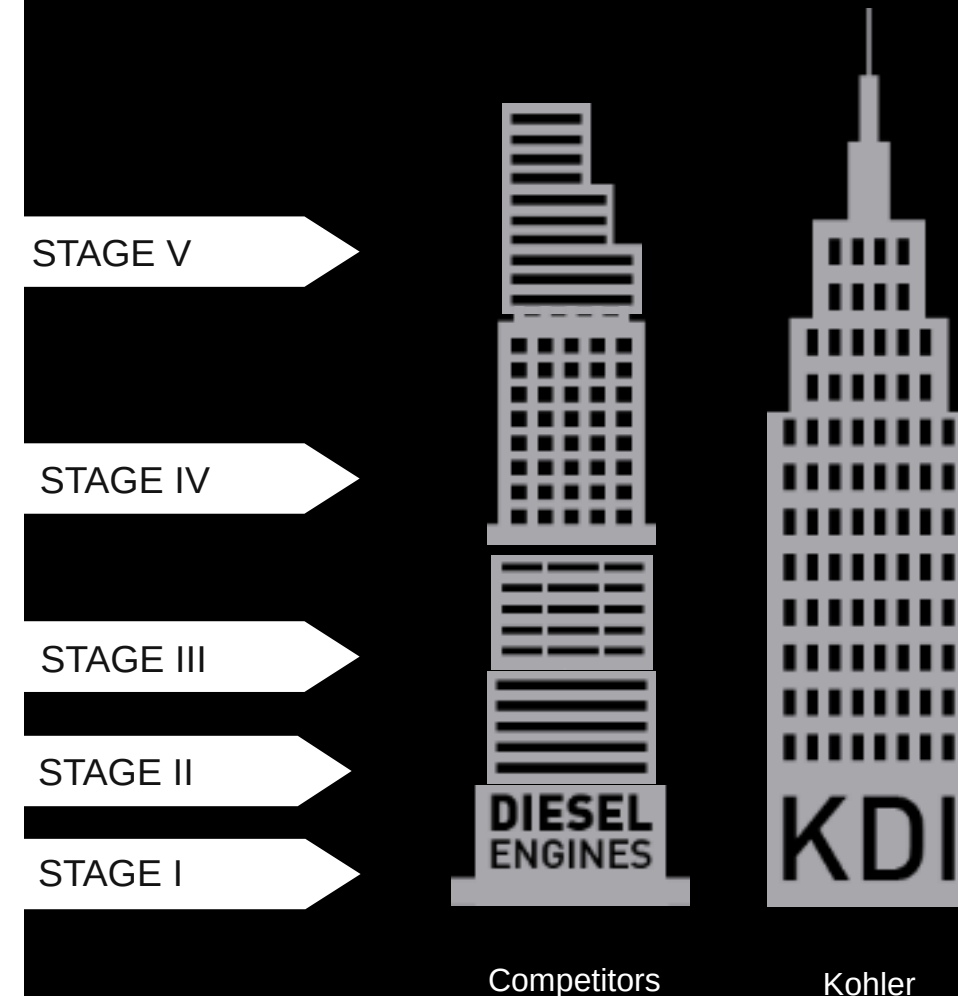
LESS REGULATED COUNTRIES

- Increasing need to respect stringent global emissions
- Outperform current engines in the field
- Be future-ready to facilitate the Off-Road electrification of powertrains.

Diesel KDI engine family

Not incremental improvements over an existing platform to meet emissions but a clean sheet design at Stage IV level and ready for Stage V.

Kohler Industrial's purpose is around technological excellence and product innovation. Our R&D efforts aim to establish ourselves as a leader in off-road powertrain innovation and deliver cutting-edge, sustainable solutions.



THE KDI 2504 TCR *Series*

From 40 (54) to 55.4 (74) kW (hp)

Architecture

- 4 cyl, 2.5 L displacement

Torque

- Up to 315 Nm



One Engine platform for the entire world

KDI 2504 TCR Value Added proposition

Smart Aftertreatment System

Designed with excellent clean combustion which reduces the downtime and simplifies the engine installation thanks to compact aftertreatment systems

Low Cost of ownership

- Longer service maintenance interval: 500h
- No valve adjustment
- Efficient fuel consumption

Leading in performance

- Best-in-class power and torque density
- Max torque at lower rpm and higher low-end torque which ensure responsiveness to load

Global product

- Compliance with the North American and European stringent emission norms
- Compliance with new emission norms in China 4, India BS4, Korea 5 and less Regulated Countries.

Application versatility

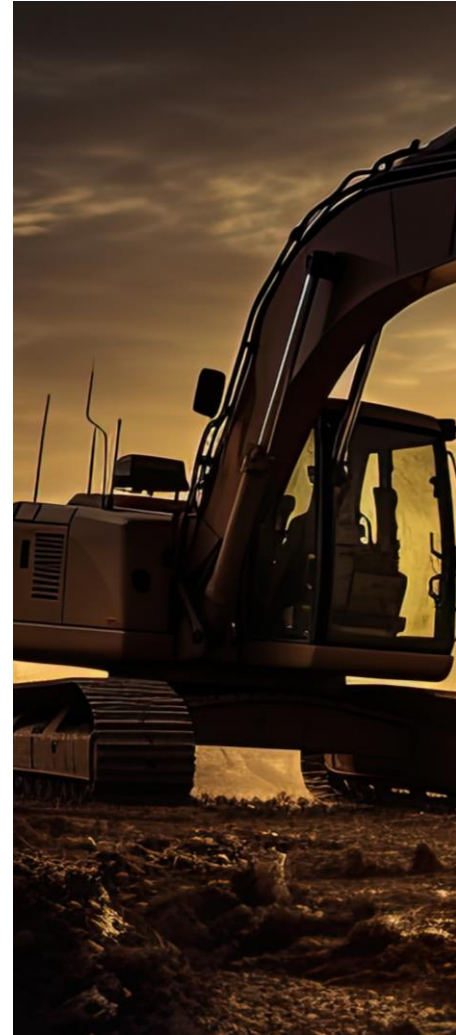
- Compact design
- Flexible After treatment layouts with fully insulated options
- Full list of flanges and options to easy integrate in each application.



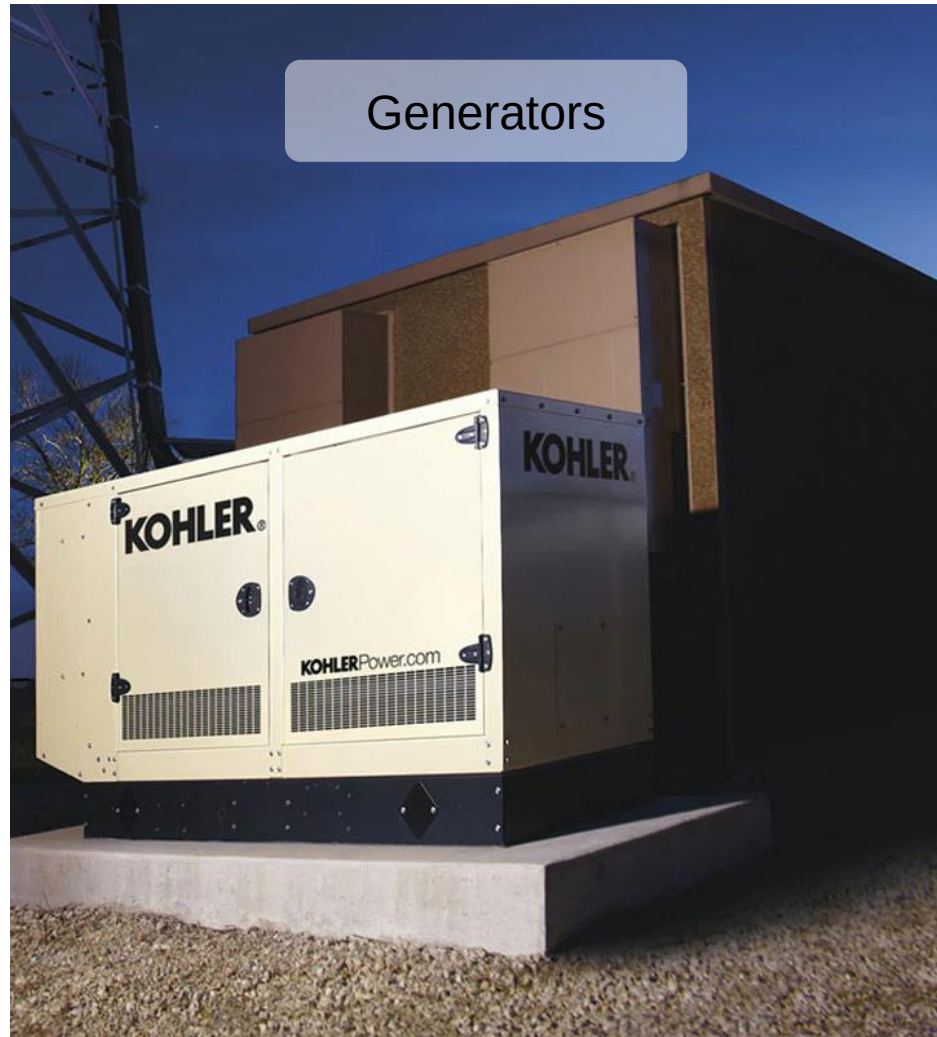
ONE SOURCE, Multiple SOLUTIONS



ONE SOURCE, Multiple SOLUTIONS



ONE SOURCE, Multiple SOLUTIONS



ONE SOURCE, Multiple SOLUTIONS



ONE SOURCE, Multiple SOLUTIONS

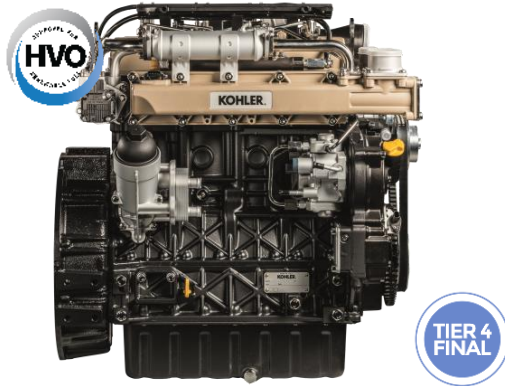


ONE SOURCE, Multiple SOLUTIONS

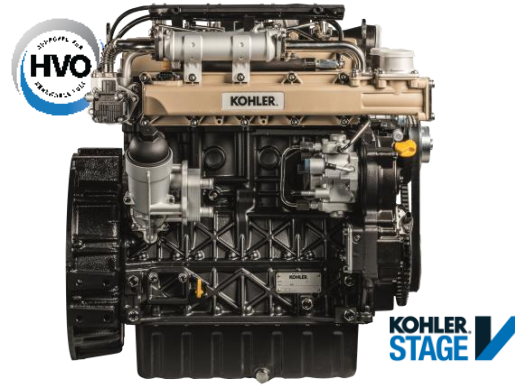


KDI 2504 TCR

T4F - EU STAGE V - LRC



KDI 2504TCR	
Cyl.	4
Displacement	2482 [cc]
Injection	DI-HPCR
Air Intake	Turbocharged
Power	40-55.4 [kW] @ 2600 [rpm] 54-74 [HP] @ 2600 [rpm]
Max Torque	300 [Nm] @ 1500 [rpm]
Emission Compliance	US Tier 4 Final None [LRC]
After Treatment System	DOC



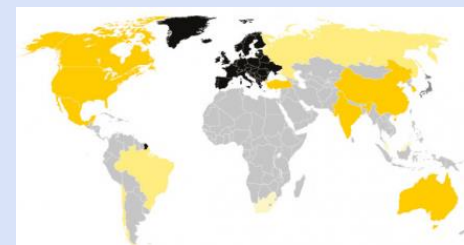
KDI 2504TCR	
Cyl.	4
Displacement	2482 [cc]
Injection	DI-HPCR
Air Intake	Turbocharged
Power	40-55.4 [kW] @ 2600 [rpm] 54-74 [HP] @ 2600 [rpm]
Max Torque	315 [Nm] @ 1500 [rpm]
Emission Compliance	EU Stage V None [LRC]
After Treatment System	DOC+DPF



EU Stage V



US Tier 4 Final



LRC

Benefit for the OEM

One Engine, multiple ratings and certifications reducing the number of SKUs and so the Working Capital

Main features and benefits

KDI 2504 TCR



Easy Maintenance



Extended Warranty



Low Heat Rejection



High Slope
Capability



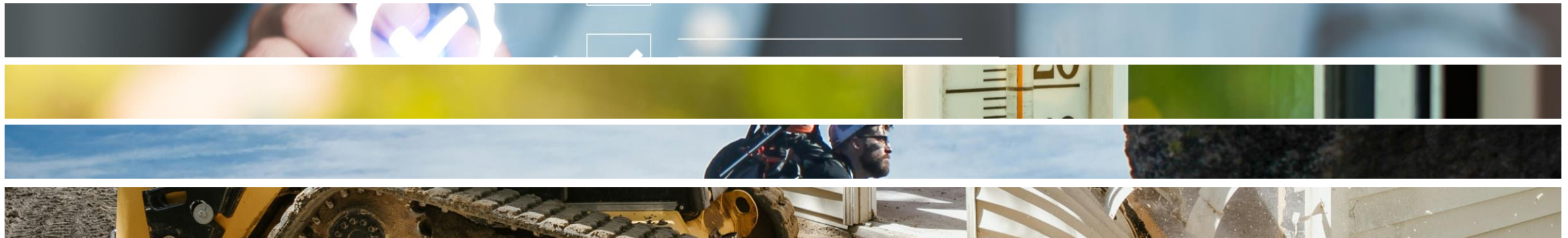
Compactness

Main features and benefits

KDI 2504 TCR

Easy Maintenance:

- KDI has easy access to main maintenance points for quick service and checks
- Service touch points on the same side
- KDI has hydraulic lash adjuster which do not need periodic valve clearance adjustment



Main features and benefits

KDI 2504 TCR



Extended Warranty

- KDI engines offer 3 years warranty which assure a lower cost of ownership

✓	
✓	
✓	

Main features and benefits

KDI 2504 TCR

Low Heat Rejection:

- Small radiators reducing installation cost and space claim
- Freedom for bonnet design
 - Less cooling fan noise
 - Possibility to implement electronically controlled fan to further reduce noise and power consumption, increasing machine efficiency



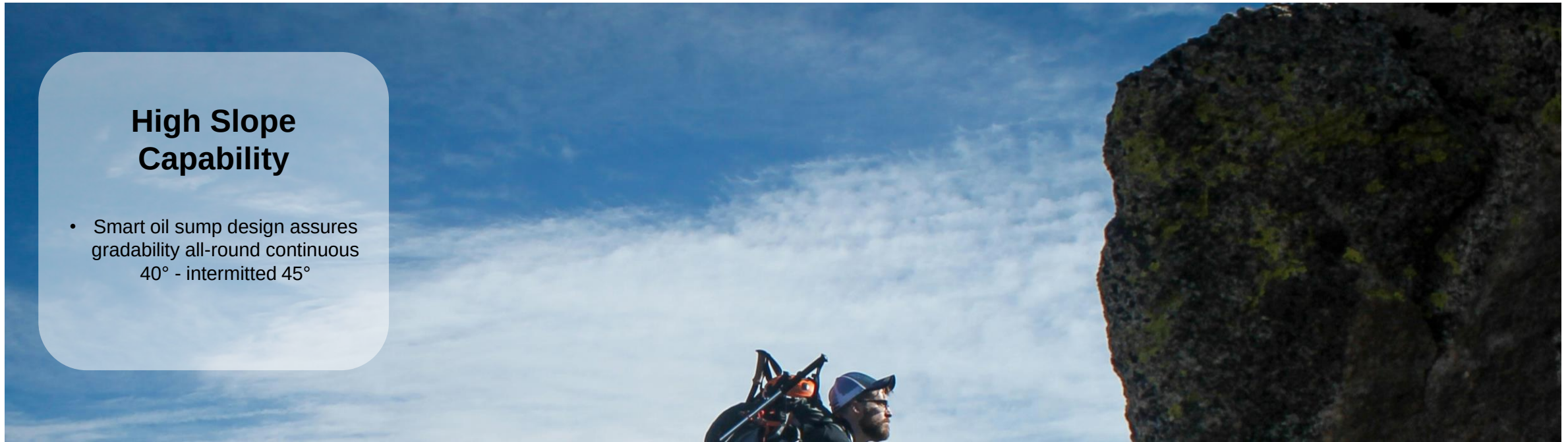
Main features and benefits

KDI 2504 TCR



High Slope Capability

- Smart oil sump design assures gradability all-round continuous 40° - intermitted 45°

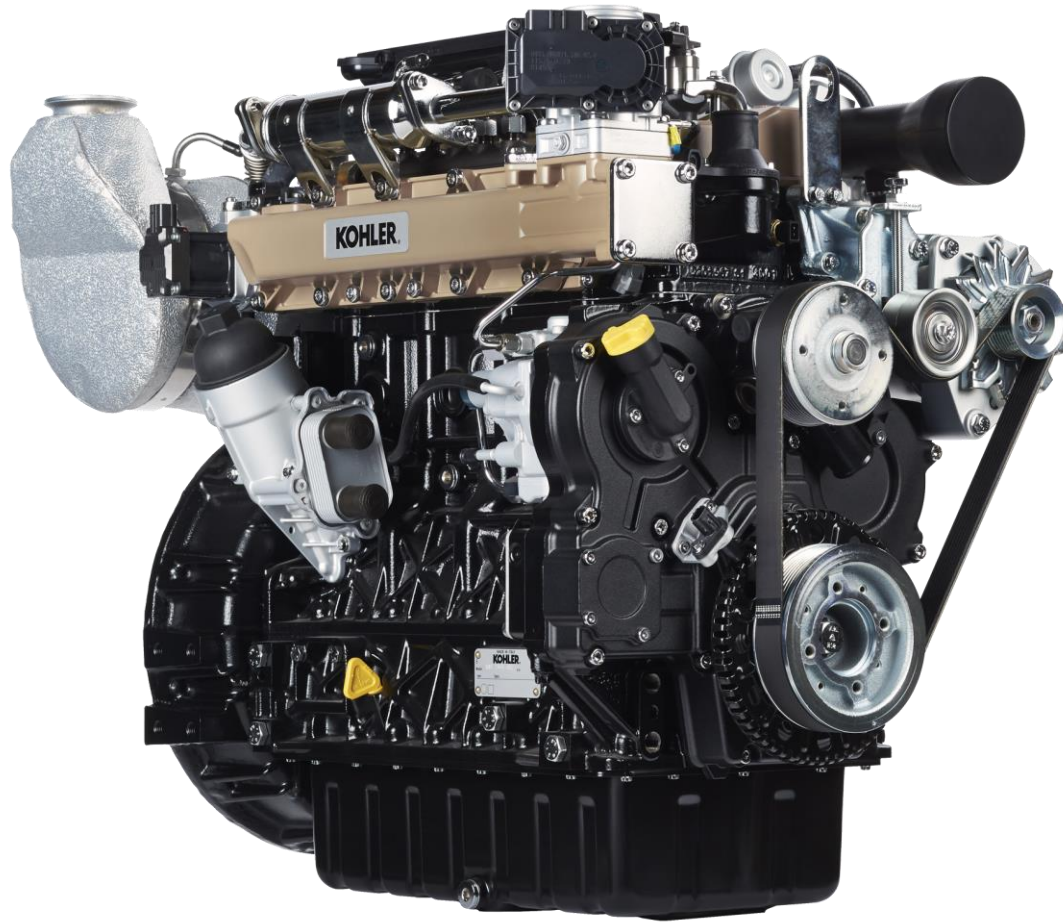




Compactness:

- Reduced engine envelope and increased power density.
- No compromise machine design

KDI 2504 TCR





KDI 2504 Reference Applications

KDI 2504 TCR Reference applications

JCB 525-60 Telehandler

ULTIMATE EFFICIENCY

The 525-60 HI-VIZ Loadall is equipped with a potent JCB diesel by Kohler Stage V engine that produces 310nm of torque at just 1500rpm.

- Because it produces peak levels of torque at revs as low as 1500rpm, this engine can provide fuel-efficient matching of the transmission and hydraulics.
- An auto regeneration feature on the Diesel Particulate Filter (DPF) enables maximum productivity and uncompromised performance.
- AutoStop on the new Stage V model automatically shuts off the engine whilst the 525-60 HI-VIZ remains safely parked and not in operation.



TECHNICAL SPECIFICATION

OVERALL HEIGHT 1,89 M

ENGINE POWER 55 KW

WEIGHT 5.490 KG

MAX LIFT CAPACITY 2.500 KG

LIFT CAPACITY TO FULL HEIGHT 2.000 KG

LIFT CAPACITY AT FULL REACH 800 KG

LIFT HEIGHT 6 M

SPEED - HIGH RANGE 20 KM/H

HIGHLIGHTS

ULTIMATE PRODUCTIVITY

A low height of 1890mm and a narrow width of 1840mm enables this JCB Loadall to access the very smallest operating environments.

ULTIMATE COMFORT

Despite the compact footprint, the JCB 525-60 HI-VIZ Loadall has a large, spacious cab with a wide access door.

ULTIMATE EFFICIENCY

The 525-60 HI-VIZ Loadall is equipped with a potent JCB diesel by Kohler Stage V engine that produces 310nm of torque at just 1500rpm.

ULTIMATE SAFETY

JCB's innovative adaptive load control system automatically prevents your 525-60 HI-VIZ telehandler from overturning forwards during heavy load handling.



**KOHLER
STAGE V**

Powered by:
KDI 2504 TCR

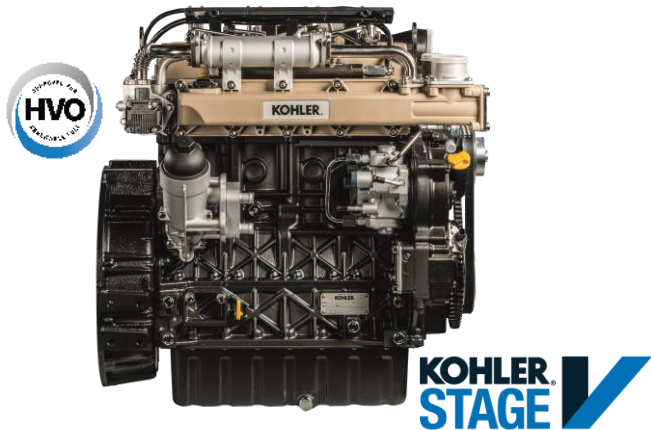
KDI 2504 TCR Reference applications

Landini Rex3 F-GE line-up



Kohler engine

The Rex3 F-GE line-up includes **two models** with the new 4-cylinder, 16-valve, 2.5-litre **Kohler** engines with 68 and 75 hp, with torque reserves of 45% and 32% respectively. Maintaining the considerable compactness of Kohler systems, the new engines are equipped with DOC systems without regeneration, therefore without affecting the productivity and efficiency of the machine in any way. Engine RPM management is provided by the *Engine Memo Switch* that allows you to store and quickly recall settings when passing from one activity to another. Full operational autonomy throughout the day is ensured by the 50-litre diesel tank.



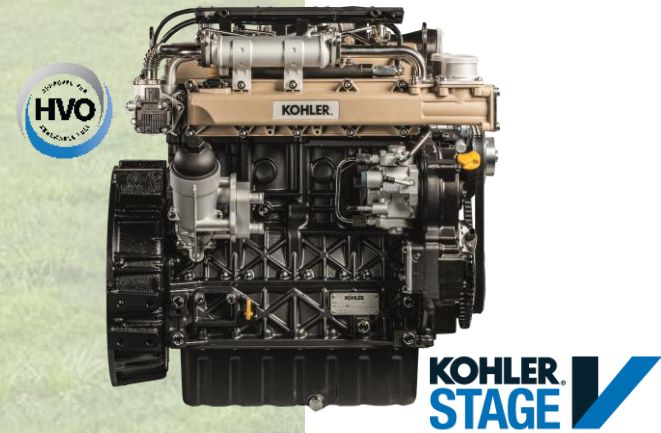
Powered by:
KDI 2504 TCR

	REX3-070 F-GE	REX3-080 F-GE
Stage V	KOHLER	KOHLER
Maximum ISO RATING hp/kW	68/48	75/55
Max Torque NM	271	300
Displacement/No. Of Cylinders cm ³	2500/ 4 TA	2500/ 4 TA



KDI 2504 TCR Reference applications

MERLO 30.7 COMPACT TELEHANDLERS

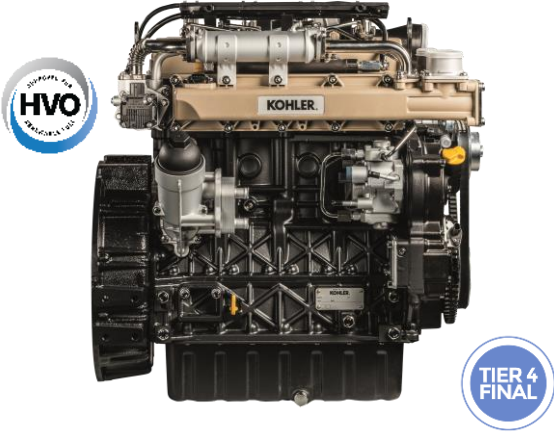


Powered by:
KDI 2504 TCR

P30.7	P30.7L
EXPAND ALL	
Performance	
Powertrain	
ENGINE	
KOHLER KDI2504	KOHLER KDI2504
RANGE/CYLINDERS	
2500/4	2500/4
ENGINE POWER (KW/HP)	
55,4/75,1	55,4/75,1
ANTI-POLLUTION TECHNOLOGY	
Stage V - DPF + DOC	Stage V - DPF + DOC

KDI 2504 TCR Reference applications

PORTABLE COMPRESSOR – SULLIVAN D210PHKR



Powered by:
KDI 2504 TCR

210 CFM

Model	D210PHKR
Rated Delivery	210 CFM (5.9 m ³ /min)
Rated Operating Pressure	100/150 psig (6.9/10.3 Bar)
Operating Pressure Range	70-165 psig (4.8 - 11.3 Bar)
Estimated Weight, Serviced	2,385 lbs
Dimensions L x W x H (in")	134" x 55" x 72"

Engine

Type	Diesel
Make & Model	KOHLER 2504 Tier 4 Final
Idle Speed	1650 RPM
Fuel Tank Capacity	29 gal (109.8 L)
Horsepower @ rated RPM	74 hp
Full Load Speed	2600 RPM

KDI 2504 TCR Reference applications

WACKER ST31- Compact Track Loader



Powered by:
KDI 2504 TCR

Maintenance and Filter Free After-treatment

- Maintenance, and regeneration free aftertreatment eliminates extreme heat and reduced performance during regeneration.
- Equipped with a passive Diesel Oxidation Catalyst (DOC) and Exhaust Gas Recirculation requiring no maintenance, reducing Total Cost of Ownership (TCO).



Why choose KDI engines?

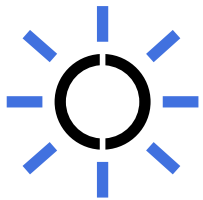


High Performance

Energy Efficient



Reliable



**Provides best Productivity,
Uptime and Total Cost of
Ownership for any type of
machine using this technology**



Thank you!

KOHLER. | Engines



PROVIDING ENGINES CONTRIBUTING TO
CARBON NEUTRALITY WORLDWIDE