rehlko

Kohler Engines
is now Rehlko

KDI Series

Diesel Engines

55 – 112 kW | 75 – 150 hp

Empower your work with KDI 3404.
Unleash the possibilities of unmatched power and precision.

Innovations and benefits

THE LOWEST FUEL CONSUMPTION IN ITS CLASS

The new KDI 3404 offers 10% lower fuel consumption than all competitors in its class. So how did we do it? We used an advanced injection system (2000 bar Common Rail, electronically controlled EGR valve, four valves per cylinder).

GREATER PRODUCTIVITY

The new KDI 3404 has the highest torque and power figures in its class, delivering the same performance as larger displacement engines. High torque at low rpms allows for maximum productivity and provides immediate response even at low engine speeds.
The result is up to 15% better productivity than other engines in its class with the same level of emissions.

FLEXIBILITY OF APPLICATIONS

In response to increasing demand for hydraulic devices on industrial machinery, the KDI 3404 has two side auxiliary power take offs and one in the front to provide maximum flexibility and compact installation for hydraulic pumps of varying displacements.

COMPACT DESIGN

The KDI 3404 is the most compact engine in its category. This allows manufacturers to design machines with smaller engine compartments, aiding driver visibility and increasing both safety and productivity.

RELIABILITY AND SAFETY

Be unstoppable with KDI 3404.
The work cycle is never interrupted by regeneration, resulting in a significant increase in productivity.

FUN TO DRIVE

The KDI 3404 responds instantly to variations in load thanks to the turbocharger's perfect integration with the engine, as well as the electronic performance management. The high levels of torque available at low rpms allow the engine to work effectively — even in the most demanding conditions.

LONGER MAINTENANCE INTERVALS

Thanks to its clean combustion the KDI 3404 doesn't need an oil change until 500 hours and above of use. The exclusive cylinder smoothing performed by next-generation machinery and the innovative design of the cylinder segments reduce friction, reducing oil consumption.

BEST-IN-CLASS COMFORT

In terms of low noise, low vibration and high visibility, the KDI 3404 is the benchmark engine in its category. The special crankcase-bedplate architecture and the balancer shafts reduce noise and vibration; the compact aftertreatment grants excellent visibility to provide best-in-class comfort.

KDI Flex

The integrated suite of engine systems

KDI Flex is the range of solutions for emission control that Rehlko has designed to enable each configuration of the engines of the KDI platform to comply with all emissions standards and regulations, worldwide.

At the heart of KDI Flex there is the clean combustion of KDI engines that enables the adoption of a compact DPF to meet the more stringent emission standard.
KDI Flex combines the clean in-cylinder combustion of KDI engines, made possible by state-of-the-art High Pressure Common Rail (2000 bar), 4 Valves head, Turbocharger, cooled-EGR, and the most compact aftertreatment devices (DOC, DPF and SCR) to comply with all emission requirements. Each combination of KDI Flex has been designed in line with the all-in-one philosophy, with the objective of minimize change for OEMs while installing and fitting into existing packages.
These systems are efficient and reliable and can be deployed in many combinations to achieve effective emissions solutions for the different markets.

KDI FLEX SOLUTIONS									
		EA	EB	E4	E5	U3	U4	C4	E5	NE
		EUROPE				NORTH AMERICA & CANADA		CHINA	KOREA	LESS REGULATED COUNTRIES
EMISSION STANDARD		STAGE IIIA EQ.	STAGE IIIB	STAGE IV	STAGE V	TIER 3	TIER 4 FINAL/ CARB	CHINA 4#	STAGE V	
<56kW	MECHANICAL INJECTION					·				·
	HIGH-PRESSURE COMMON RAIL		·		·		·	·		(·**)
	C-EGR		·		·		·	·		
	DOC		·		·		·	·		
	DPF				·		(·*)	·		
>56kW	MECHANICAL INJECTION	·				·				·
	HIGH-PRESSURE COMMON RAIL		·	·	·	·	·	·	·	(·**)
	C-EGR		·	·		·	·		·	
	DOC		·	·	·	·	·	·	·	
	DPF				·		·	·	·	
	SCR			·	·		·	·	·	

* HOMOLOGATION PROCESS FOR US – TIER 4 FINAL ONGOING
** WITH LIMITATION ON MAX SULFUR CONTENT IN FUEL
# CHINA 4 READY

Turbo Common Rail Engines

Standard equipment

Intake manifold

Exhaust manifold

Horizontal exhaust flange

Lateral oil fill provision

3.2 kW Electric starter

90A Alternator

SAE 3 (11" 1/2)

Cabin heating provision

Engine mounted oil filter

Fuel filter with water sensor

Environmentally friendly oil filter

Engine Control Unit (ECU)

Oil sump capacity 15.6L

Accessories on demand

Heavy duty air cleaner

Downward exhaust flange

Hydraulic pump provision
on 3rd and 4th PTO

120A & 145A Alternator

High fan configuration

Balancer shafts

Rotate turbo

375 Nm Power take-off front PTO

Structural oil sump and bell housing

24V

KDI-TCR 3404

P < 56 kW

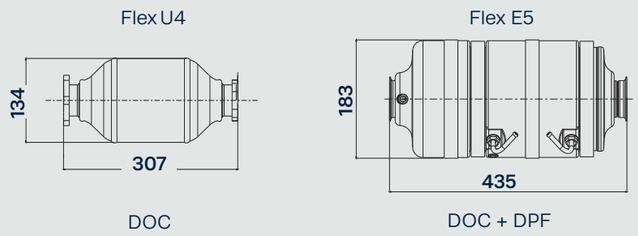
QUICK SPECIFICATIONS	KDI-TCL 3404U4/22	KDI-TCN 3404E5/22
CYLINDERS / FIE	4 / TURBO COMMON RAIL	4 / TURBO COMMON RAIL
MAX POWER kW (HP) @ rpm	55.4 (74) @ 2200	55.4 (74) @ 2200
MAX TORQUE Nm @ rpm	375 @ 1400	465 @ 1100
EMISSION COMPLIANCE	EU STAGE III B US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL*
KDI FLEX EMISSIONS MANAGEMENT SYSTEM	U4 (EGR+DOC)	E5 (EGR+DOC+DPF)
AFTERCOOLER	•	•

APPROVED FOR HVO RENEWABLE FUEL

*** Engine capable, homologation process for US – Tier 4 Final ongoing.**

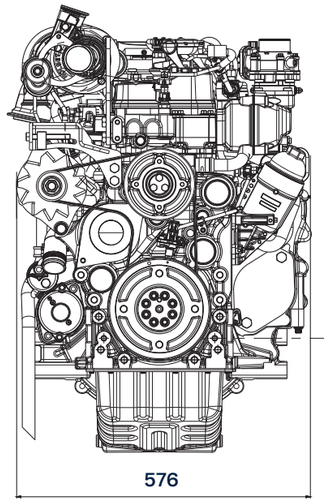
KDI Flex ENVELOPE

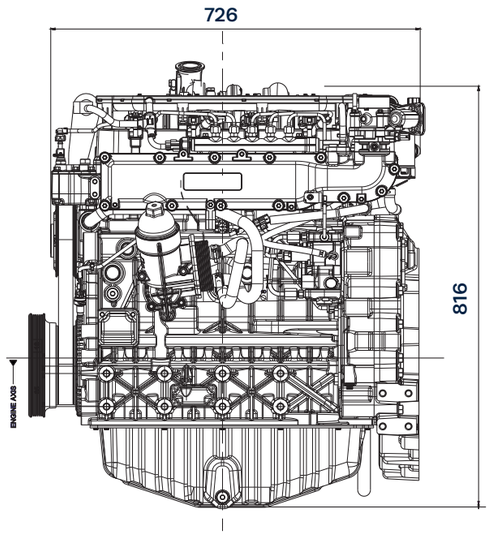
Dimensions (mm)



Data

Dimensions (mm)

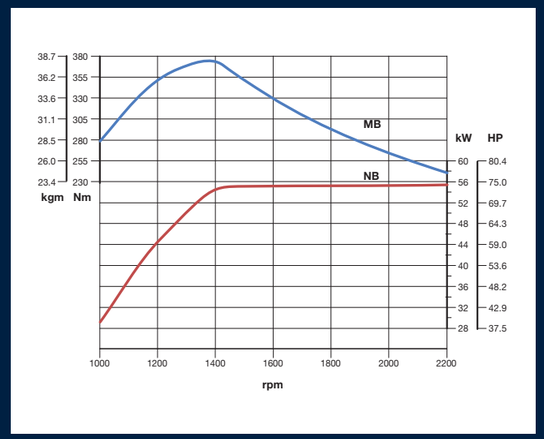




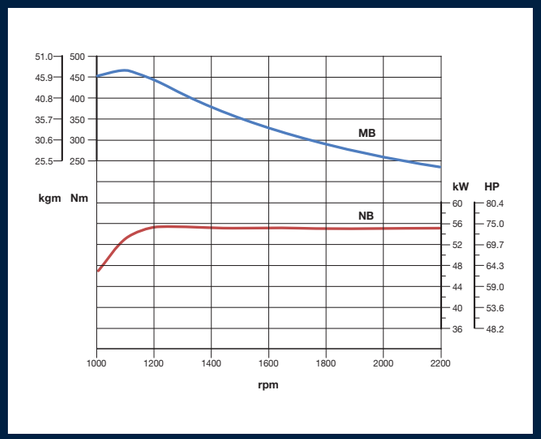
Performance curves

(ACCORDING TO ISO 14396)

KDI-TCL 3404U4/22



KDI-TCN 3404E5/22



MB - Torque curve
NB - Power curve

Performances measured according to ISO 14396 without final intake and exhaust line. Actual engine performances may be affected by accessories (intake and exhaust line, charging, cooling fan, etc.), application, ambient operating conditions (temperature, humidity, and altitude) and other factors.

KDI-TCR 3404

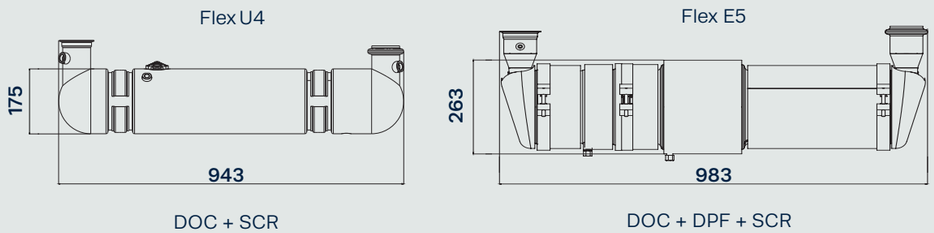
P > 56 kW

QUICK SPECIFICATIONS	KDI-TCV 3404U4/22	KDI-TCP 3404E5/22
CYLINDERS / FIE		
MAX POWER kW (HP) @ rpm	100 (134) @ 2200	105 (141) @ 2200 112 (150) @ 1800
MAX TORQUE Nm @ rpm	500 @ 1400	650 @ 1400
EMISSION COMPLIANCE	EU STAGE IV US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL
KDI FLEX EMISSIONS MANAGEMENT SYSTEM	U4 (EGR+DOC+SCR)	E5 (DOC+DPF+SCR)
AFTERCOOLER	·	·

APPROVED FOR HVO RENEWABLE FUEL

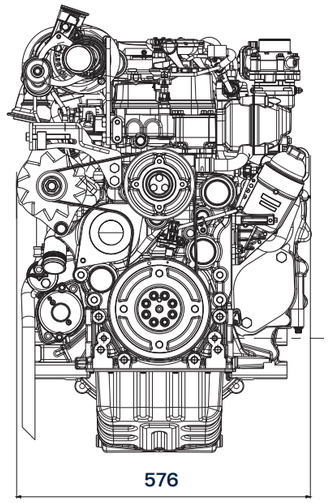
KDI Flex ENVELOPE

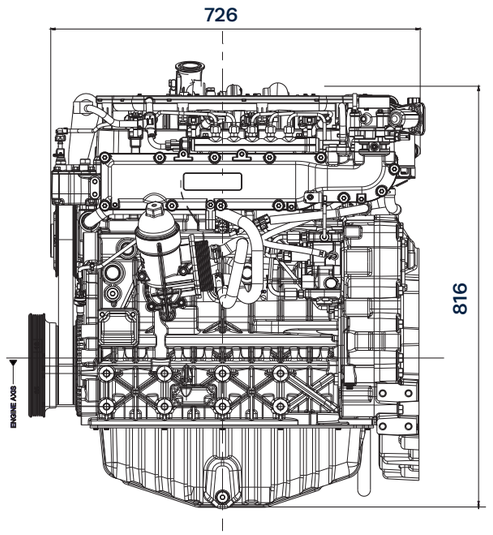
Dimensions (mm)



Data

Dimensions (mm)

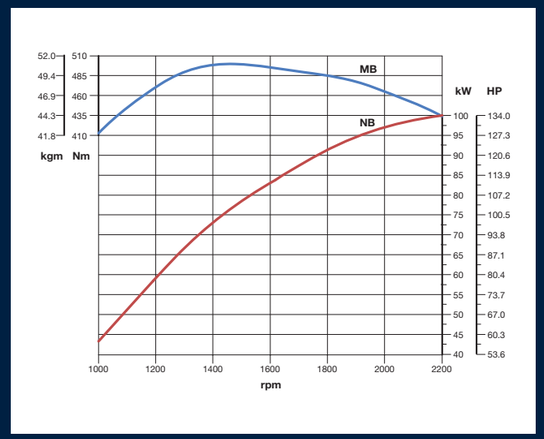




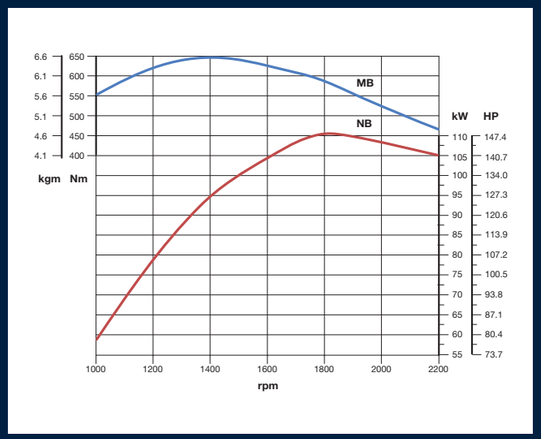
Performance curves

(ACCORDING TO ISO 14396)

KDI-TCV 3404U4/22



KDI-TCP 3404E5/22



MB - Torque curve
NB - Power curve

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KDI-TCR 3404

P > 56 kW / Other power settings available

QUICK SPECIFICATIONS	KDI-TCV 3404U4/22B	KDI-TCP 3404E5/22C	KDI-TCV 3404U4/22C	KDI-TCP 3404E5/22E
CYLINDERS / FIE	4 / TURBO COMMON RAIL			
MAX POWER kW (HP) @ rpm	75 (101)*@ 2200	75 (101)*@ 2200	90 (121)@ 2200	90 (121)@ 2200
MAX TORQUE Nm @ rpm	475 @ 1400	490 @ 1400	480 @ 1400	550 @ 1400
EMISSION COMPLIANCE	EU STAGE IV US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL	EU STAGE IV US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL
KDI FLEX EMISSIONS MANAGEMENT SYSTEM	U4 (EGR+DOC+SCR)	E5 (DOC+DPF+SCR)	U4 (EGR+DOC+SCR)	E5 (DOC+DPF+SCR)
AFTERCOOLER	·	·	·	·

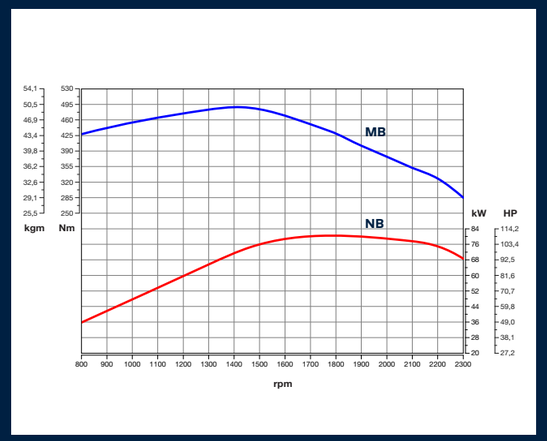
HVO APPROVED FOR HVO RENEWABLE FUEL

*** available also at 81 kW / 108 hp and 500 Nm @ 1400 rpm**

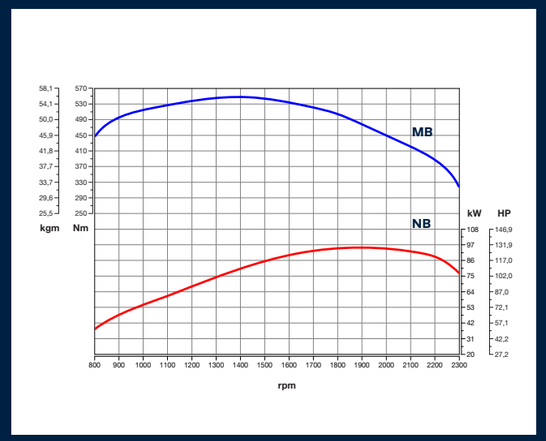
Performance curves

(ACCORDING TO ISO 14396)

KDI-TCP 3404E5/22C



KDI-TCP 3404E5/22E



MB - Torque curve
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Turbo Common Rail Engines

MODEL		KDI 3404 P < 56 kW		KDI 3404 P > 56 kW	
ENGINE SPECS	4 STROKE DIESEL WITH CYLINDER IN LINE	·		·	
	LIQUID COOLING	·		·	
	4 VALVES PER CYLINDER	·		·	
	IN CRANKCASE CAMSHAFT, GEAR TRAIN DRIVEN	·		·	
	PUSHROD - ROCKER ARMS TIMING WITH HYDRAULIC TAPPETS	·		·	
	CAST IRON CRANKCASE WITH BED-PLATE	·		·	
	CAST IRON CYLINDER HEADS	·		·	
	OPEN CRANKCASE VENTILATION SYSTEM	·		·	
TECHNICAL FEATURES	CYLINDER	4		4	
	BORE (MM)	96		96	
	STROKE (mm)	116		116	
	ENGINE DISPL (cm^3)	3359		3359	
	INJECTION SYSTEM	DI		DI	
	INJECTION EQUIPMENT	TURBO HIGH PRESSURE COMMON RAIL		TURBO HIGH PRESSURE COMMON RAIL	
	AFTERCOOLER	·	·	·	·
PERFORMANCE	MAX POWER (ISO 14396)* [kW (HP) @ rpm] @ 2200	55.4 (74)	55.4 (74)	100 (134)	105 (141)
	MAX TORQUE (ISO 14396) (Nm @ rpm)	375 @ 1400	465 @ 1100	500 @ 1400	650 @ 1400
	LOW-END TORQUE (Nm @ 1000 rpm)	278	410	412	450
KDI FLEX EMISSIONS MANAGEMENT SYSTEM	KDI Flex solution	U4	E5	U4	E5
	EGR	·	·	·	-
	DOC	·	·	·	·
	DPF	-	·	-	·
	SCR	-	-	·	·
	EMISSION COMPLIANCE	EU STAGE III B US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL[1]	EU STAGE IV US TIER 4 FINAL	EU STAGE V US TIER 4 FINAL
FUEL ECONOMY	BEST POINT (g/kWh)	205		205	
	MAX POWER (g/kWh @ 2400 rpm)	229		230	
STARTABILITY	UNAIDED (°C)	DOWN TO -15		DOWN TO -15	
	AIDED** (°C) [MANIFOLD GRID HEATER]	BELOW -15		BELOW -15	
FUEL COMPATIBILITY	EN 590	·		·	
	NO 1 DIESEL (US) - ASTM D 975-09 B - GRADE 1-D S 15	·		·	
	NO 2 DIESEL (US) - ASTM D 975-09 B - GRADE 2-D S 15	·		·	
	ARCTIC EN 590/ASTM D 975-09 B (NO PETROLEUM ADDED)	·		·	
	HIGH SULFUR FUEL < 500 ppm***	-		-	
	HVO - HYDROTREATED VEGETABLE OIL	·		·	
SERVICE FEATURES	OIL/FILTER CHANGE INTERVAL STD/SYNTHETIC (HR)	500		500	
	VALVE ADJUSTEMENT	—		—	
	ALTERNATOR BELT REPLACEMENT	36 mth		36 mth	
	COOLANT CHANGE	24 mth		24 mth	
	OIL CONSUMPTION (% FUEL)	<0.1		<0.1	
PHYSICAL CHARACTERISTICS	H x L x W (FAN EXCLUDED) (mm)	816 x 726 x 576		816 x 726 x 576	
	WEIGHT (kg)#	394		394	
	DAILY SERVICE POINTS - POSITIONS	1 SIDE SERVICE		1 SIDE SERVICE	
	AMBIENT OPERATING TEMPS (°C)	-30 TO +50		-30 TO +50	
	GRADEABILITY-ALL ROUND (CONTINOUS) (DEG)	40°		40°	
	GRADEABILITY-ALL ROUND (INTERMITTENT-1MIN) (DEG)	45°		45°	
LUBRICATION	OIL TYPE	API CK-4 / API CJ-4 / ACEA E6 E7 E9		API CK-4 / API CJ-4 / ACEA E6 E7 E9	
VIBRATION	MAX ENGINE EXCITATION AT MOUNTING LOCATIONS	5g		5g	
AUXILIARY PTOS (3RD & 4TH) (OPTIONAL)		3°PTO	4°PTO	3°PTO	4°PTO
	MAX TORQUE (Nm)	200	250	200	250
	DRIVE RATIO	1:1.13	1:1	1:1.13	1:1
	PROVISION FOR HYDRAULIC PUMP	SAE A	SAE B	SAE A	SAE B

*** rated speed** **** according to operating conditions** ***** with restrictions** **# engine only** **[1] homologation process for US – Tier 4 Final ongoing**

For more information, contact your Rehlko source of supply.

Discovery Energy, LLC reserves the right to make modifications without prior notice.

engines.rehlko.com

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