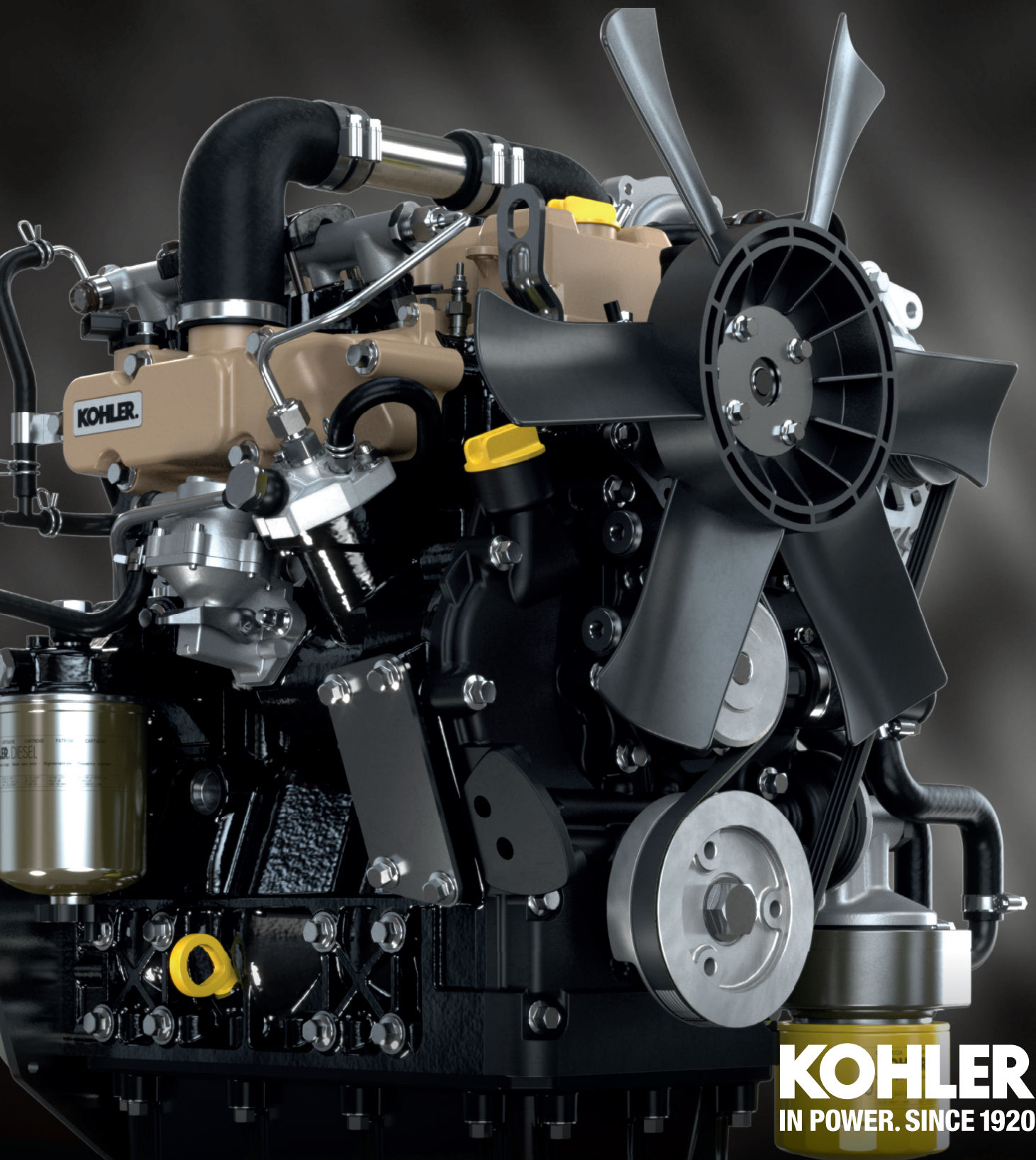


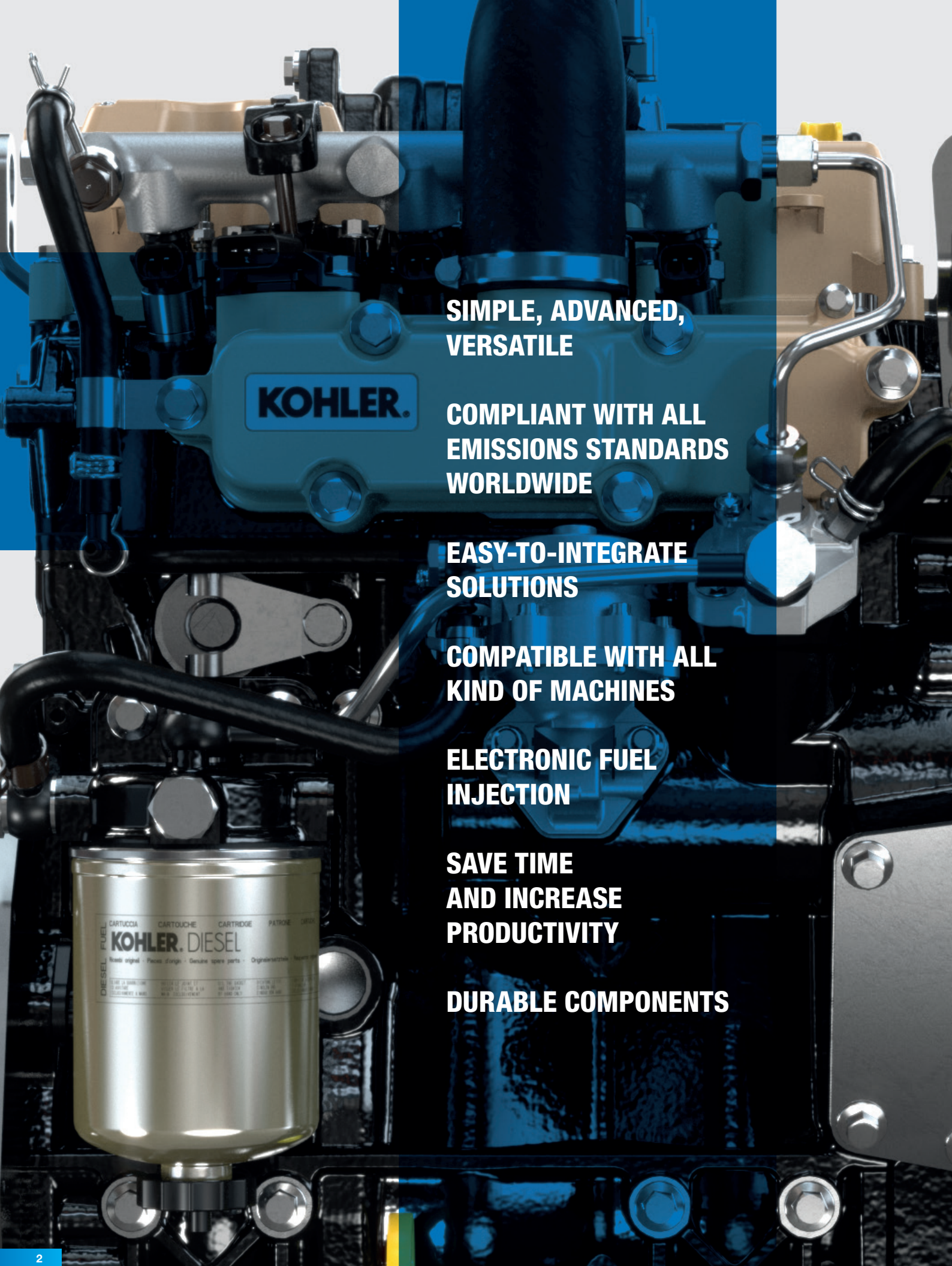
# KOHLER® DIESEL KSD

18.4 kW – 24.7 hp



**KOHLER®**  
IN POWER. SINCE 1920.





**SIMPLE, ADVANCED,  
VERSATILE**

**COMPLIANT WITH ALL  
EMISSIONS STANDARDS  
WORLDWIDE**

**EASY-TO-INTEGRATE  
SOLUTIONS**

**COMPATIBLE WITH ALL  
KIND OF MACHINES**

**ELECTRONIC FUEL  
INJECTION**

**SAVE TIME  
AND INCREASE  
PRODUCTIVITY**

**DURABLE COMPONENTS**

# INNOVATIONS AND BENEFITS

## EMISSIONS STANDARDS

The wide variety of emission standards has introduced a new level of complexity to the engines business. The KOHLER KSD is a new base engine below 19 kW that complies with all global emissions standards and fuels.

## ELECTRONIC CONTROL

The versatility of KOHLER KSD engines goes beyond performance, with the ability to easily fit into existing machine platforms. KOHLER KSD engines are electronically managed, while being as simple to use as mechanical engines. The fuel system allows precise fuel metering and excellent load response, resulting in time saving and increased productivity. Moreover, KSD engines offer switchability for gensets.

## COMBUSTION SYSTEM

The innovative technology brought on by the KOHLER KSD is its architecture: it features a state-of-the-art indirect injection system but has the electronic management typical of direct injection engines:

- The engine performance is maximized in every operating condition and environment
- Outstanding engine responsiveness
- The amazing low-end torque values allow the operator to run his piece of equipment at lower rpm to save fuel
- The electronic injection system results in no visible black smoke
- Noise and vibrations are minimized

## EASE OF INSTALLATION

KOHLER KSD engines do not require any kind of machine re-designing from OEMs. As a result, KOHLER KSD engines offer a drop-in solution for existing applications, making no further investments needed.

## SERVICE

KOHLER KSD engines allow for prognostic, diagnostic, geolocation, remote monitoring and switchability for genset application, and offer a service interval of up to 500 hours, for both oil and fuel filters. 2000-hours of service interval of the Poly-V fan belt and no valve adjustment give KOHLER KSD engines a 3-year warranty providing up to 6000 hours of protection.

## SERVICE & TOTAL COST OF OWNERSHIP

KOHLER KSD engines allow for prognostic, diagnostic, geolocation, and remote monitoring to minimize machine downtime.

KOHLER KSD engines offer 2000 hours of service interval of the Poly-V fan belt and no valve lash adjustment. The service interval of up to 500 hours for both oil and fuel filters and a 3-year warranty providing up to 6000 hours of protection reduce the total cost of ownership, making KSD-powered applications extremely productive with increased uptime.

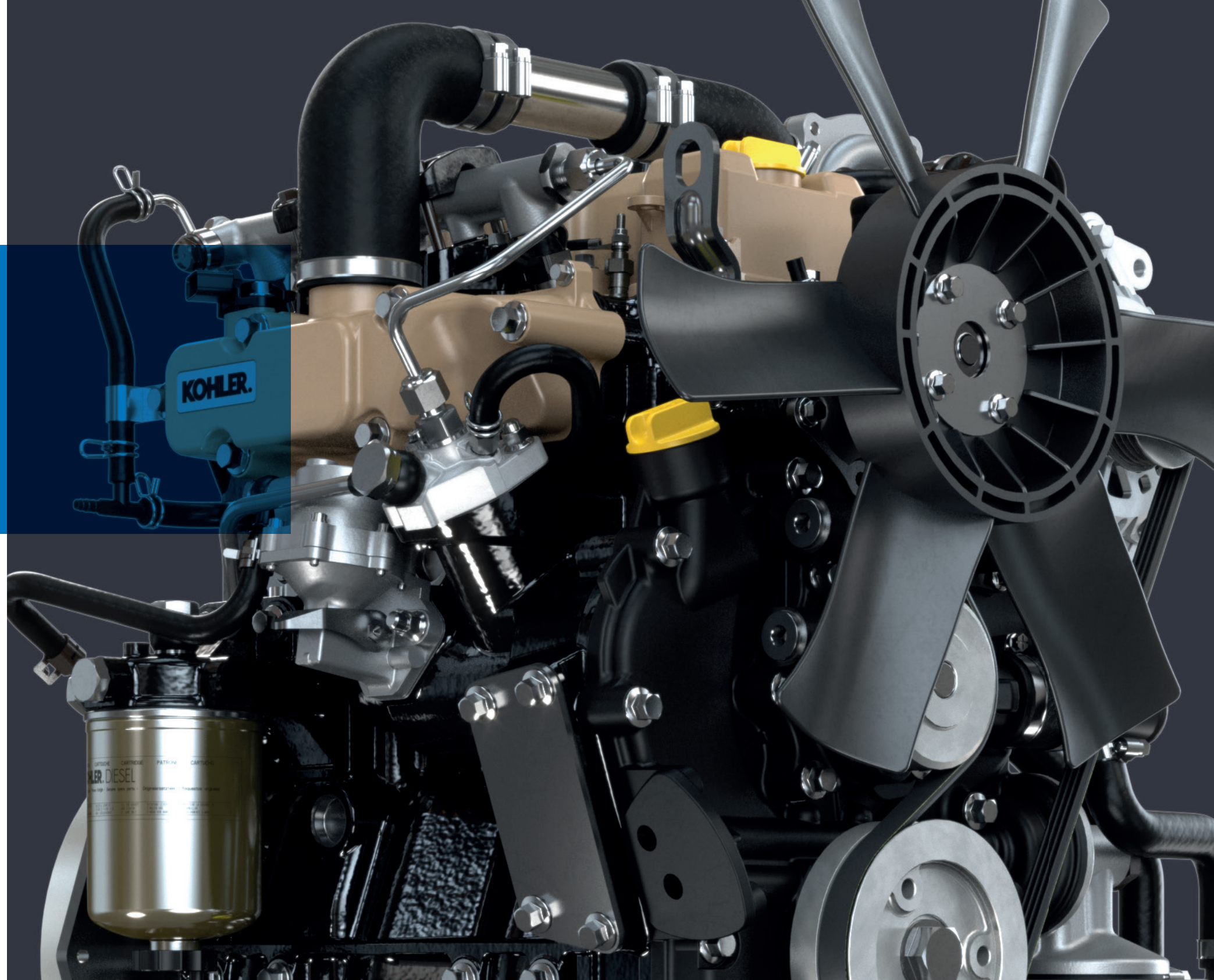
The indirect injection system does not affect the fuel consumption rate: on the contrary, the electronic management and the focus on clean combustion drive low oil and fuel consumption and avoid oil dilution as well as heavy soot oil contamination.



# TURBO COMMON RAIL

## STANDARD EQUIPMENT

- Intake manifold
- Exhaust manifold
- Side oil refilling
- Electric starter
- 45A alternator
- Backplate flange
- 7" ½ flywheel
- Oil filter engine mounted
- Fuel filter engine mounted
- ECU
- Oil sump capacity 3.7 L



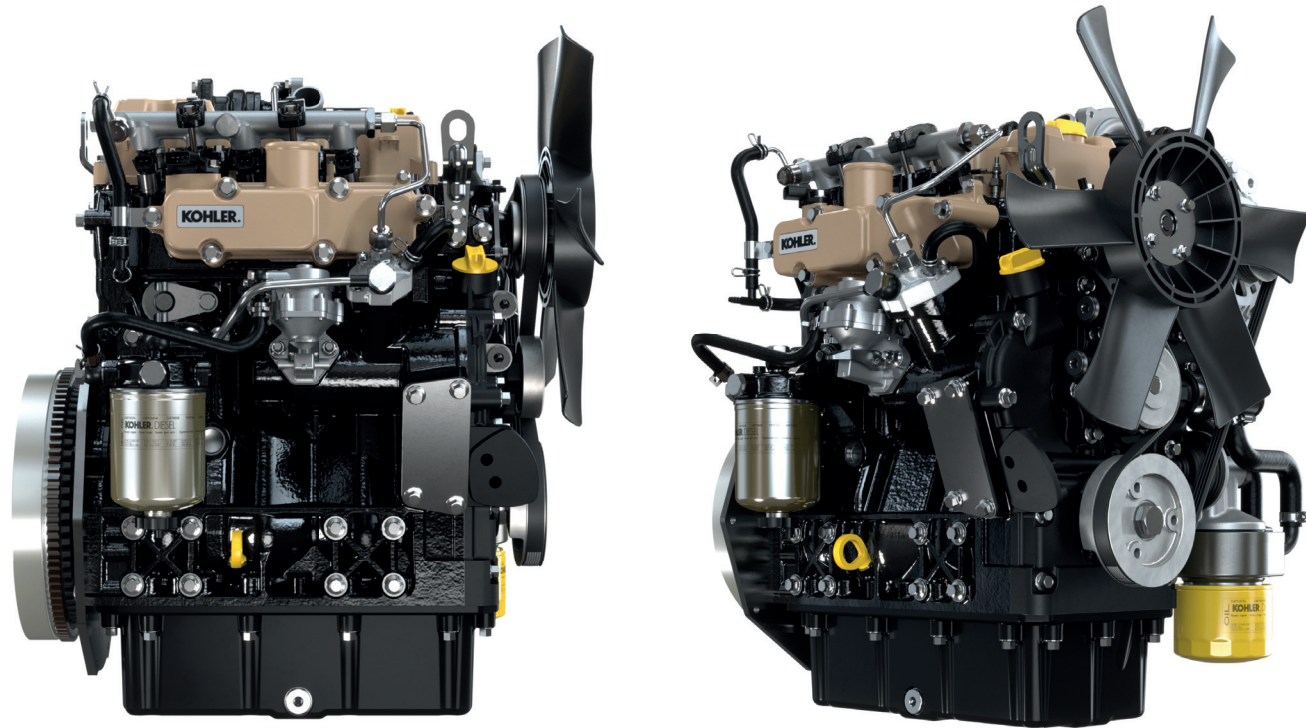
## ACCESSORIES ON DEMAND

- |                                                 |                              |                                   |
|-------------------------------------------------|------------------------------|-----------------------------------|
| SAE 5 (7" ½)                                    | High capacity oil sump 5.3 L | Muffler                           |
| SAE 4 (6" ½)                                    | Remote oil and fuel filter   | Radiator                          |
| Hydraulic pump provision on 3 <sup>rd</sup> PTO | 80A or 100A alternator       | Heavy duty air cleaner            |
| Flexible fan position                           | CAN BUS Wiring harness       | Arctic Boost (-26°C startability) |



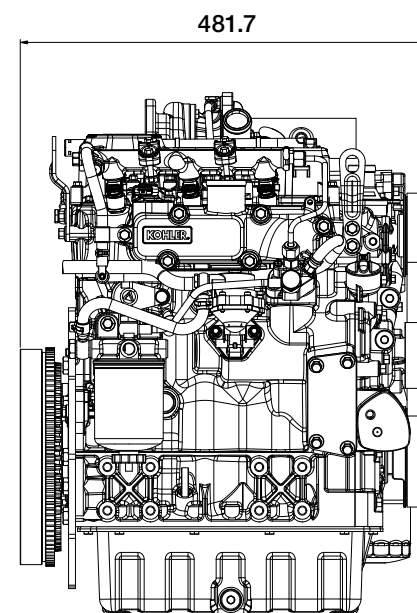
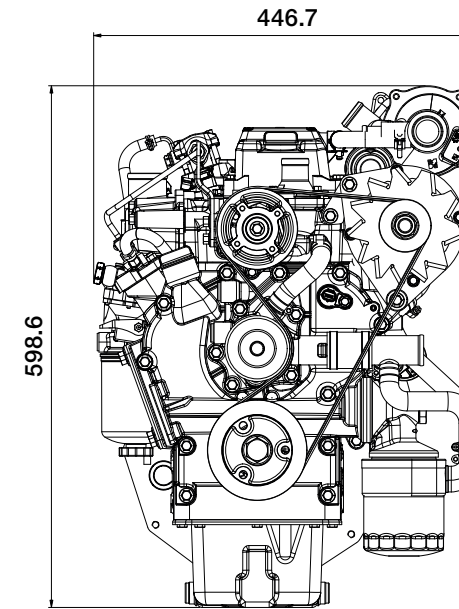
# KSD 1403TCA

## TURBO COMMON RAIL WITH AFTERCOOLER



### DATA

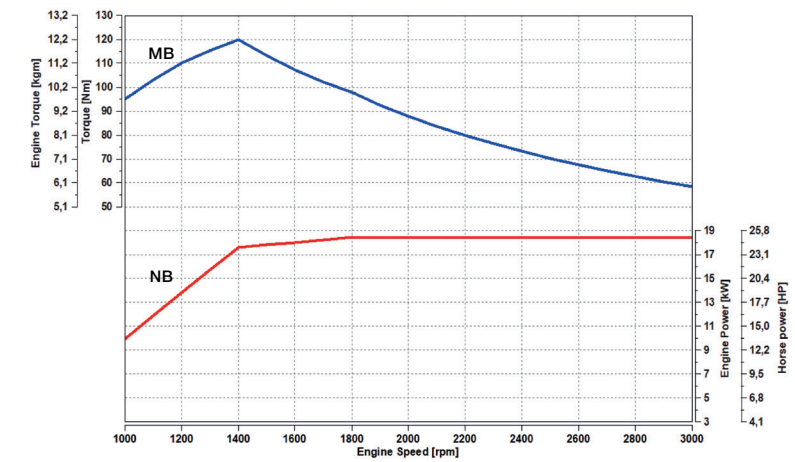
Dimensions (mm)



### PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)

#### KSD TURBO COMMON RAIL WITH AFTERCOOLER



— MB – Torque curve – ISO 3046/1 – IFN

— NB – Power curve – ISO 3046/1 – IFN

Power ratings refer to engines equipped with air filter, standard muffler, after running-in period at ambient conditions of +25°C, relative humidity 30% and 1 bar. De-rating depending on applications.

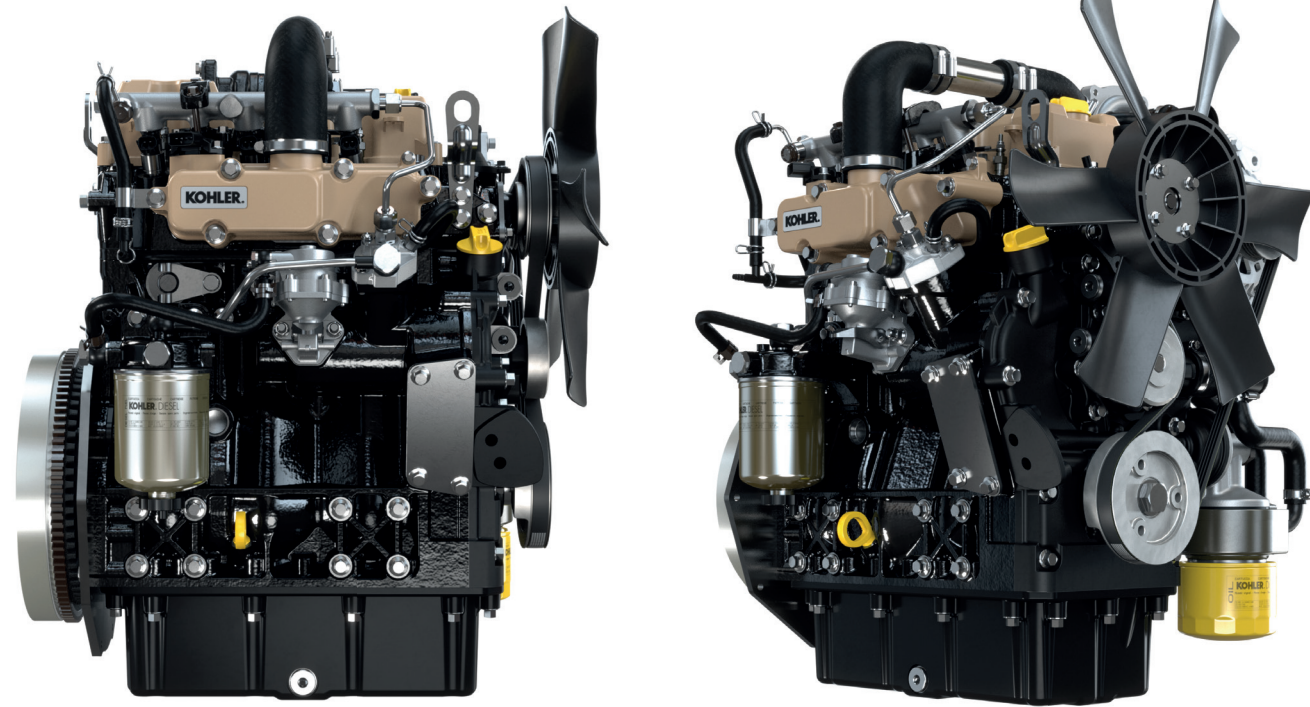
Quick specifications	KSD 1403TCA
CYLINDERS / FIE	3 / Turbo Common Rail
MAX POWER kW (hp) @ rpm	18.4 (24.7) @ 3000 US Tier 4 Final 18.9 (25.7) @ 3000 Stage V*
MAX TORQUE Nm @ rpm	120 @ 1400
EMISSION COMPLIANCE	US Tier 4 Final / EU Stage V

\*Engine model with double emission compliance (Stage V/Tier 4 Final): 18.4 kW (24.7 hp) @ 3000 rpm



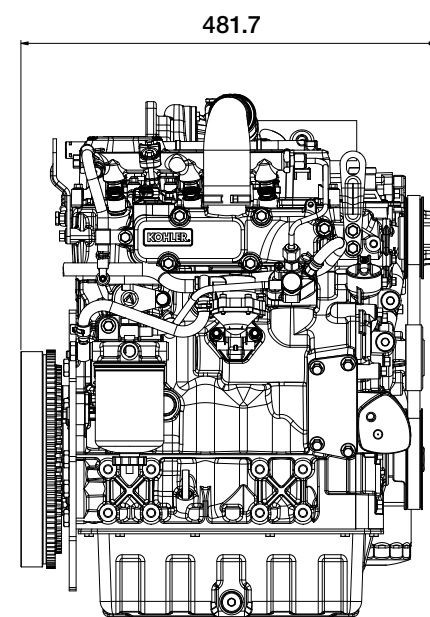
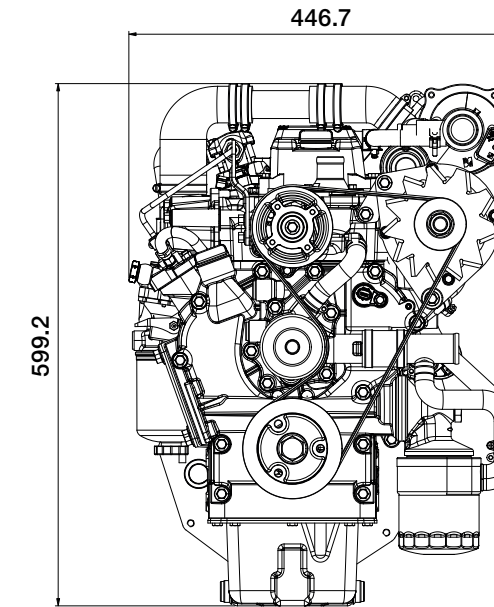
# KSD 1403TC

## TURBO COMMON RAIL



### DATA

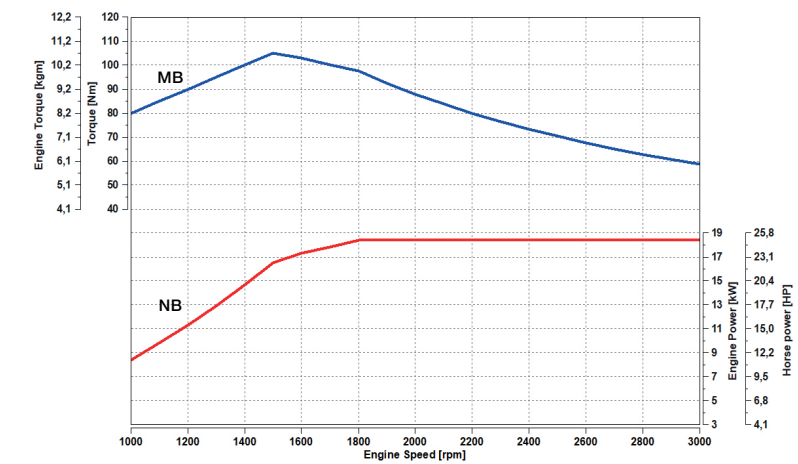
Dimensions (mm)



### PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)

#### KSD TURBO COMMON RAIL



- MB – Torque curve – ISO 3046/1 – IFN
- NB – Power curve – ISO 3046/1 – IFN

Power ratings refer to engines equipped with air filter, standard muffler, after running-in period at ambient conditions of +25°C, relative humidity 30% and 1 bar. De-rating depending on applications.

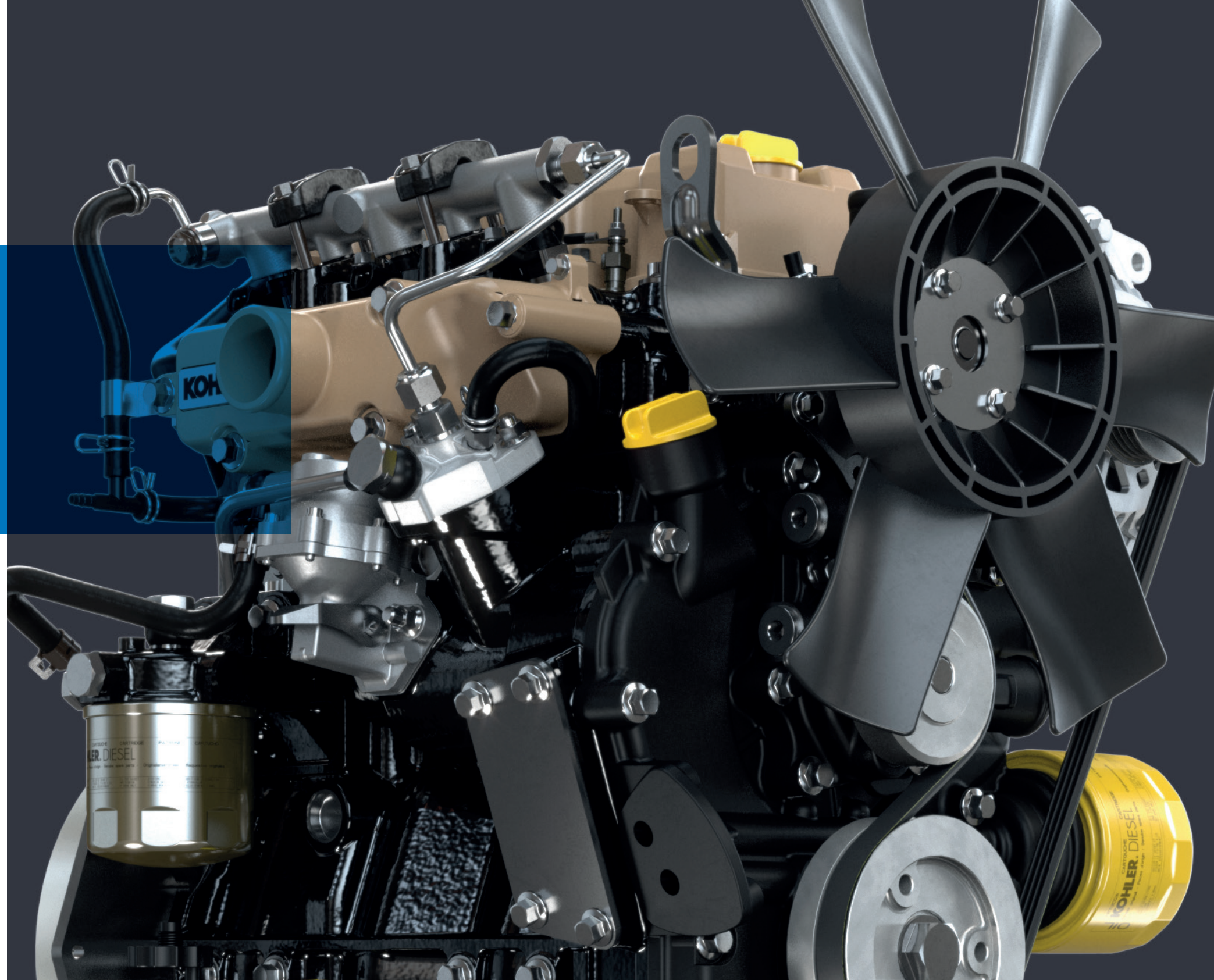
Quick specifications	KSD 1403TC
CYLINDERS / FIE	3 / Turbo Common Rail
MAX POWER kW (hp) @ rpm	18.4 (24.7) @ 3000 US Tier 4 Final 18.9 (25.7) @ 3000 Stage V*
MAX TORQUE Nm @ rpm	105 @ 1500
EMISSION COMPLIANCE	US Tier 4 Final / EU Stage V



# NATURALLY ASPIRATED

## STANDARD EQUIPMENT

- Intake manifold
- Exhaust manifold
- Side oil refilling
- Electric starter
- 45A alternator
- Backplate flange
- 7" ½ flywheel
- Oil filter engine mounted
- Fuel filter engine mounted
- ECU
- Oil sump capacity 3.7 L



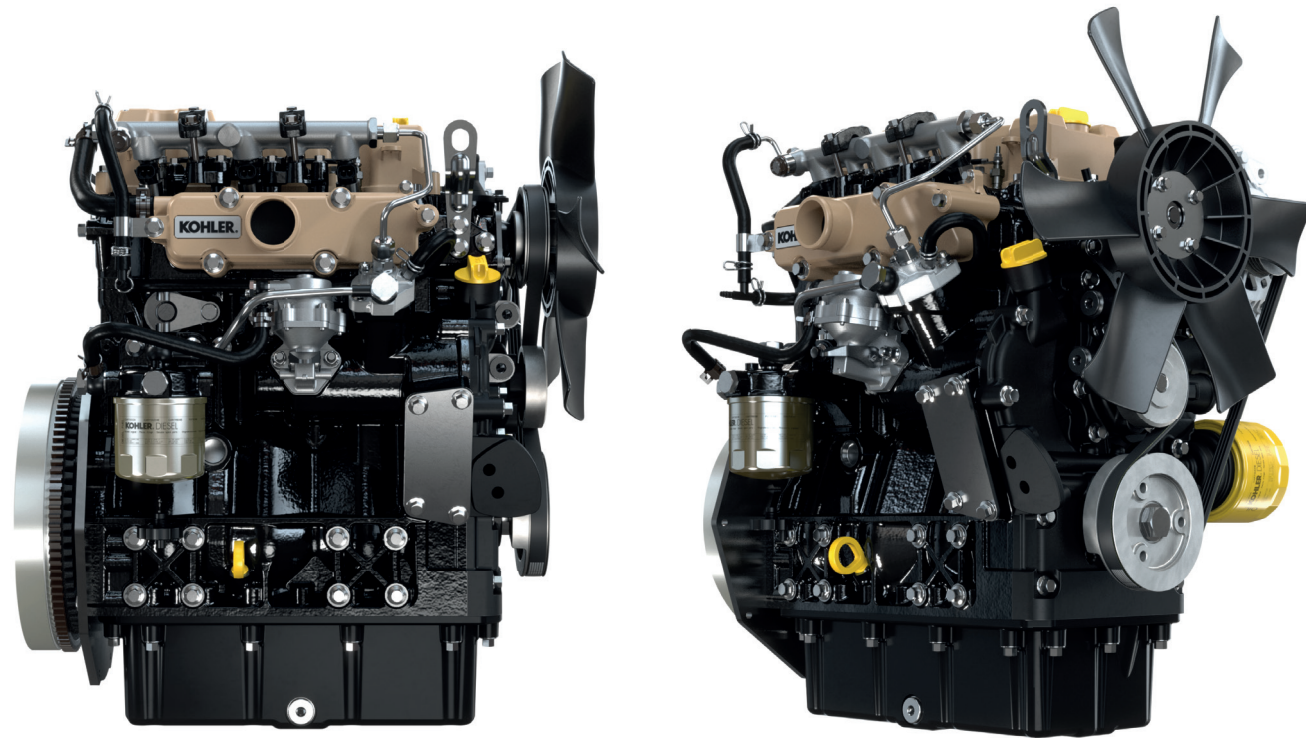
## ACCESSORIES ON DEMAND

- |                                                 |                              |                                   |
|-------------------------------------------------|------------------------------|-----------------------------------|
| SAE 5 (7" ½)                                    | High capacity oil sump 5.3 L | Muffler                           |
| SAE 4 (6" ½)                                    | Remote oil and fuel filter   | Radiator                          |
| Hydraulic pump provision on 3 <sup>rd</sup> PTO | 80A or 100A alternator       | Heavy duty air cleaner            |
| Flexible fan position                           | CAN BUS Wiring harness       | Arctic Boost (-26°C startability) |



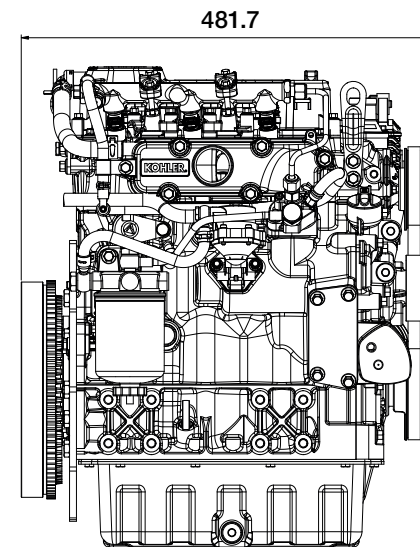
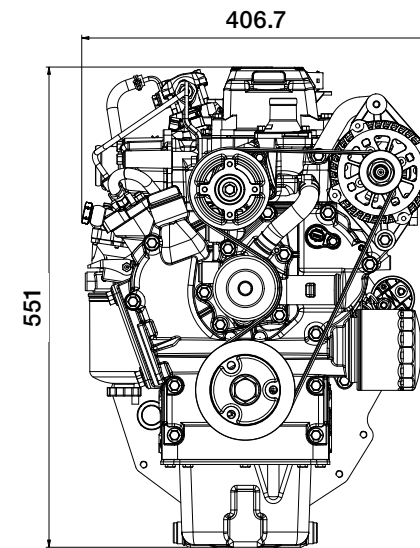
# KSD 1403NA

## NATURALLY ASPIRATED



### DATA

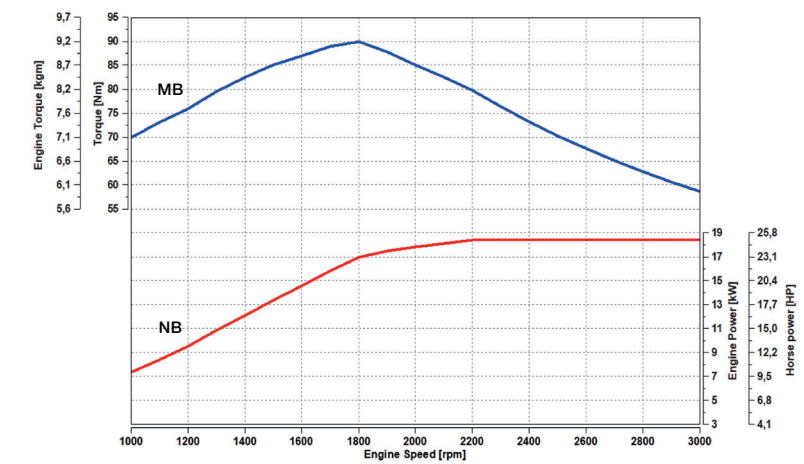
Dimensions (mm)



### PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO14396)

#### KSD NATURALLY ASPIRATED



- MB – Torque curve – ISO 3046/1 – IFN
- NB – Power curve – ISO 3046/1 – IFN

Power ratings refer to engines equipped with air filter, standard muffler, after running-in period at ambient conditions of +25°C, relative humidity 30% and 1 bar. De-rating depending on applications.

Quick specifications	KSD 1403NA
CYLINDERS / FIE	3 / Common Rail
MAX POWER kW (hp) @ rpm	18.4 (24.7) @ 3000 US Tier 4 Final 18.9 (25.7) @ 3000 Stage V*
MAX TORQUE Nm @ rpm	90 @ 1800
EMISSION COMPLIANCE	US Tier 4 Final / EU Stage V

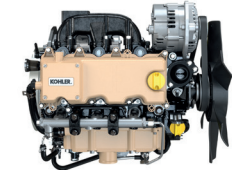


## TURBO COMMON RAIL ENGINES



Model	KSD1403-TCA	KSD1403-TC
Engine specs	4 stroke diesel with cylinder in line	•
	Liquid cooling	•
	2 valves per cylinder	•
	In crankcase camshaft, gear train driven	•
	Pushrod – rocker arms timing with hydraulic tappets	•
	Cast iron crankcase	•
	Cast iron cylinder head	•
	Closed crankcase ventilation system	•
Technical features	Cylinder	3
	Bore (mm)	81
	Stroke (mm)	90
	Engine displ (cm³)	1391
	Injection system	IDI
	Injection Equipment	IDI common rail
	Aftercooler	•
	Performance	Max power (IFN – ISO 3046 and ISO 14396) [kW(hp) @ rpm]
Max torque (IFN – ISO 3046 and ISO 14396) (Nm @ rpm)		120 @ 1400
Low-end torque (Nm @ 1000 rpm)		95
Emission compliance		EU Stage V US Tier 4 Final
Fuel economy		Best point (g/kWh)
	Max power (g/kWh @ 1800 rpm)	255
Startability	Unaided (°C)	down to –15
	Unaided (°C) with Arctic Boost	down to –26
	Aided (°C) [Coolant heater]	below –26
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 < 2000 ppm *	•
Service features	Oil/filter change interval std/synthetic (hr)	500–1000**
	Alternator belt replacement	36 mth
	Coolant change	24 mth
	Oil consumption (% fuel)	<0.05
Physical characteristics	H x L x W (fan excluded) (mm)	598.6 x 481.7 x 446.7
	Weight (kg)	126
	Daily service points – positions	Optional single service side (select side)
	Ambient operating temps (°C)	–40 to +50
	Gradeability-all round (continuous) (deg)	35
Lubrication	Oil type	SAE 15W 40 – API CH4
	Max torque (Nm)	40
Auxiliary PTOs (3 <sup>rd</sup> optional)	Drive ratio	1:1 times engine speed
	Provision for a double Gr.2 tandem hydraulic pump	•

## NATURALLY ASPIRATED ENGINE



Model	KSD1403-NA	
Engine specs	4 stroke diesel with cylinder in line	•
	Liquid cooling	•
	2 valves per cylinder	•
	In crankcase camshaft, gear train driven	•
	Pushrod – rocker arms timing with hydraulic tappets	•
	Cast iron crankcase	•
	Cast iron cylinder head	•
	Closed crankcase ventilation system	•
Technical features	Cylinder	3
	Bore (mm)	81
	Stroke (mm)	90
	Engine displ (cm³)	1391
	Injection system	IDI
	Injection Equipment	IDI common rail
	Aftercooler	–
	Performance	Max power (IFN – ISO 3046 and ISO 14396) [kW(hp) @ rpm]
Max torque (IFN – ISO 3046 and ISO 14396) (Nm @ rpm)		90 @ 1800
Low-end torque (Nm @ 1000 rpm)		70
Emission compliance		EU Stage V US Tier 4 Final
Fuel economy		Best point (g/kWh)
	Max power (g/kWh @ 2200 rpm)	253
Startability	Unaided (°C)	down to –15
	Unaided (°C) with Arctic Boost	down to –26
	Aided (°C) [Coolant heater]	below –26
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 < 2000 ppm *	•
Service features	Oil/filter change interval std/synthetic (hr)	500–1000**
	Alternator belt replacement	36 mth
	Coolant change	24 mth
	Oil consumption (% fuel)	<0.05
Physical characteristics	H x L x W (fan excluded) (mm)	551 x 481.7 x 406.7
	Weight (kg)	121
	Daily service points – positions	Optional single service side (select side)
	Ambient operating temps (°C)	–40 to +50
	Gradeability-all round (continuous) (deg)	35
Lubrication	Oil type	SAE 15W 40 – API CH4
	Max torque (Nm)	40
Auxiliary PTOs (3 <sup>rd</sup> optional)	Drive ratio	1:1 times engine speed
	Provision for a double Gr.2 tandem hydraulic pump	•



For more information, contact your KOHLER product supplier.  
Kohler Co. reserves the right to make modifications without prior notice.

**KOHLER**<sup>®</sup>  
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**KOHLERENGINES.COM**

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