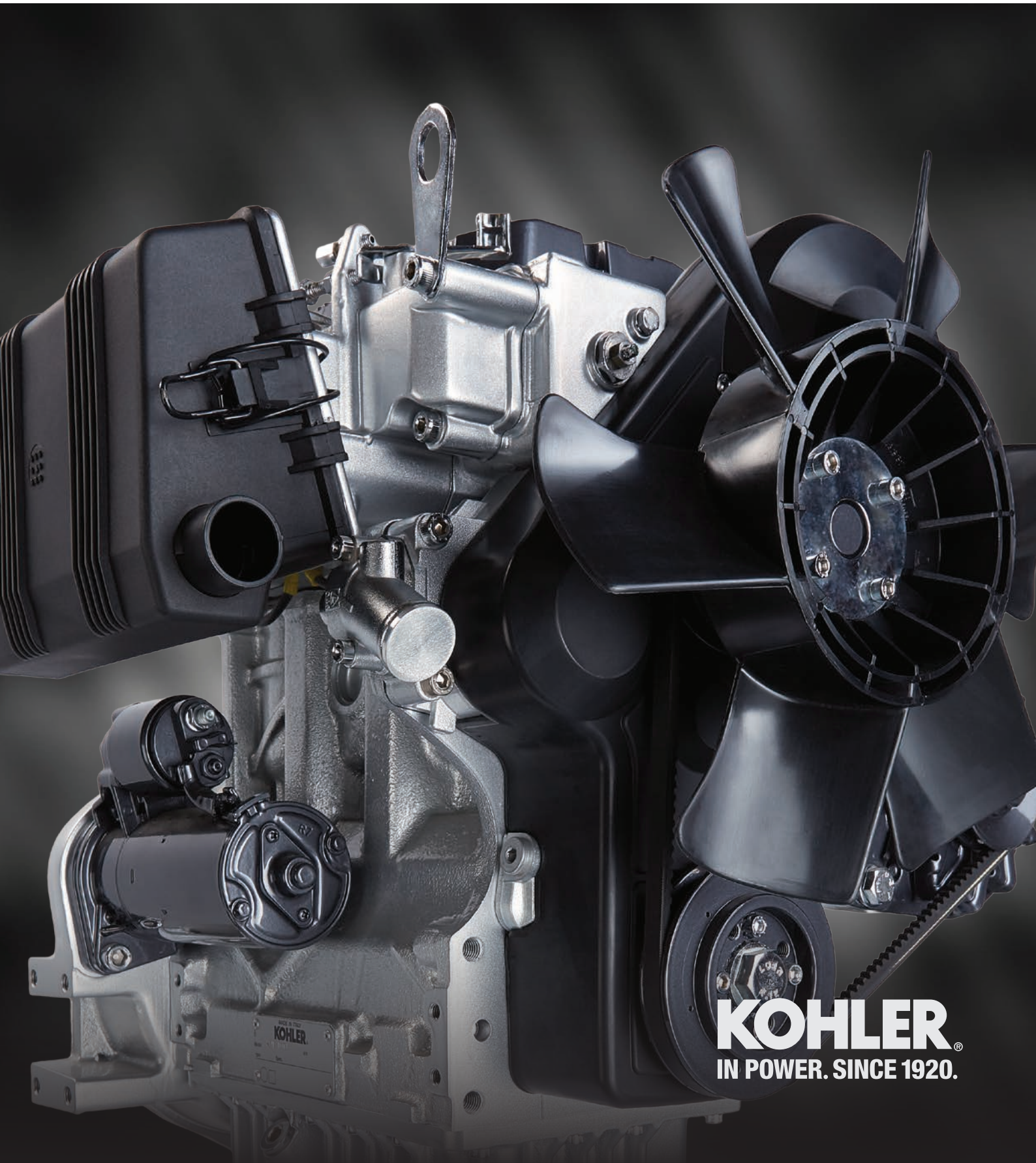
KOHLER® DIESEL KDW

8.6 – 24.5 kW | 11.5 – 32.8 hp



WATER COOLED DIESEL ENGINES

STANDARD EQUIPMENT

External spin-on type oil filter

Exhaust manifold

Intake manifold

Accelerator control

Electric starter motor and alternator 12V

Thermostat valve

Flywheel with ring gear

Fuel feeding mechanical pump

Coolant pump

Flanging backplate

Electric stop 12V

Glow Plug Control Unit 12V

Fuel filter engine mounted

ACCESSORIES ON DEMAND

Fan guard

Clutch flywheels

Bell housings and flywheels

Transmission adapters

Key panels 12V or 24V

Wiring harnesses

Radiators

Pushing fan

Suction fan

Engine feet

Fuel tanks

Silencers

Dry type air cleaners
(engine mounted or loose)

Air intake cyclonic pre-cleaners

High capacity oil sumps*

Cab heating provision

Hydraulic pump adaptors

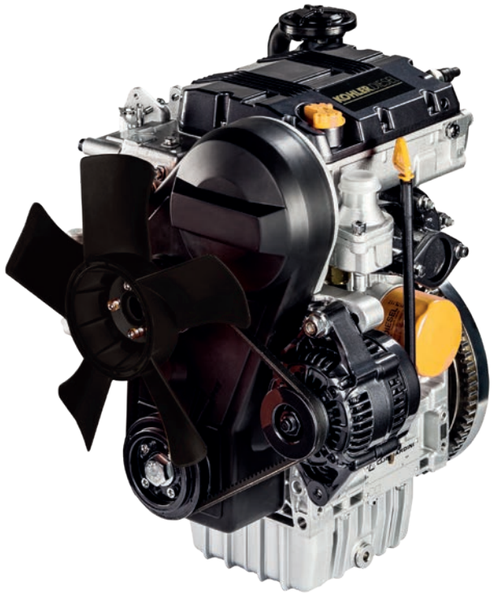
Vacuum pump adaptors

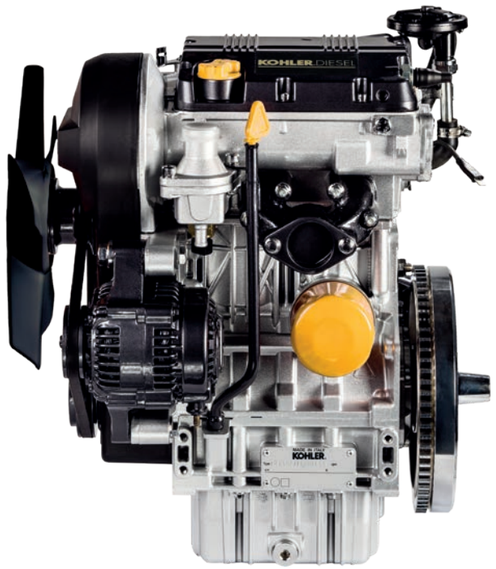
Electric fuel feeding pump

24V starter motor, glow plugs and alternator

* Not on KDW502 model

KDW
502



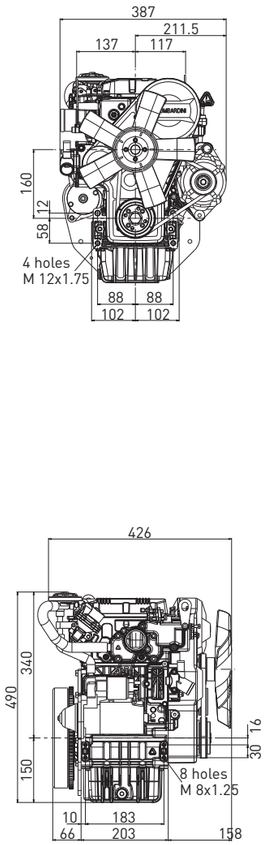


Quick specifications	KDW502 ECE R 24	KDW502 EURO 4
CYLINDERS	2	2
MAX POWER kW (hp)@rpm	8.0 (10.7) @ 3600	6.0 (8.0) @ 3000
MAX TORQUE Nm@rpm	23 @ 2000	21 @ 1800
EMISSION COMPLIANCE	ECE R 24	Euro 4 (for on-road quadricycle)

(Power & torque NB curve)

DATA

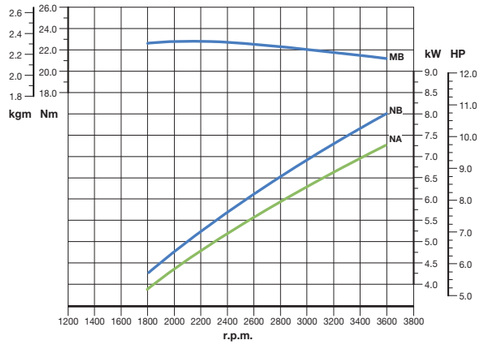
Dimensions (mm)



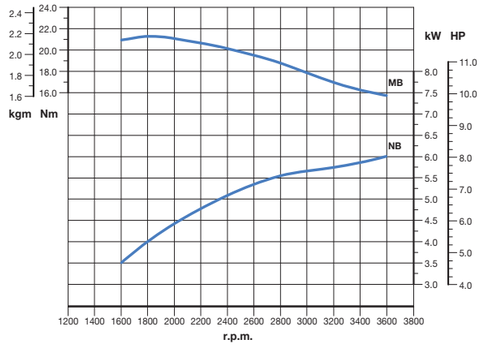
PERFORMANCE CURVES

(ACCORDING TO ISO 14396)

KDW502 ECE R 24



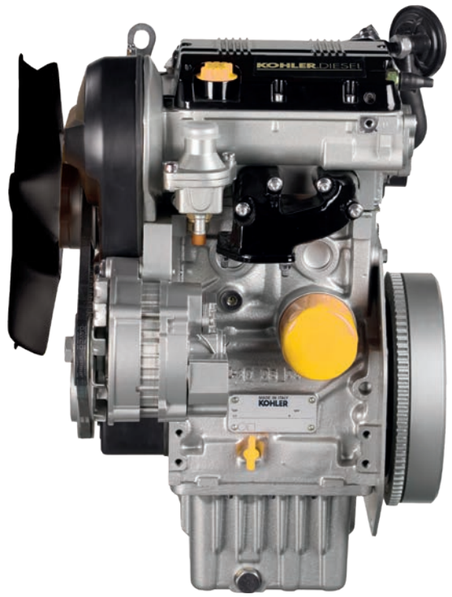
KDW502 Euro 4



- NB - Power curve
- NA - Power curve
- MB - Torque curve - (NB curve)

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

KDW
702



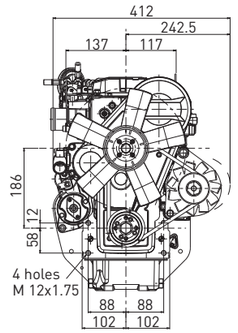
Quick specifications	KDW702 ECE R 24	KDW702 E536	KDW702 E536A
CYLINDERS	2	2	2
MAX POWER kW (hp)@rpm	11.5 (15.4) @ 3600	11.5 (15.4) @ 3600	11.6 (15.5) @ 3600
MAX TORQUE Nm@rpm	37.8 @ 2000	34.0 @ 2600	35.0 @ 2600
EMISSION COMPLIANCE	ECE R 24	EU Stage V US Tier 4 Final	EU Stage V

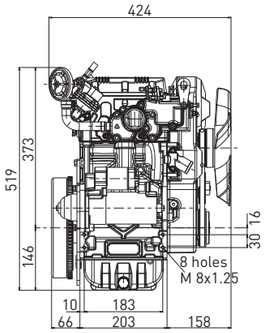
HVO APPROVED FOR HVO RENEWABLE FUEL

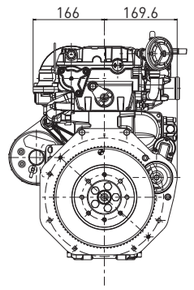
(Power & torque NB curve)

DATA

Dimensions (mm)



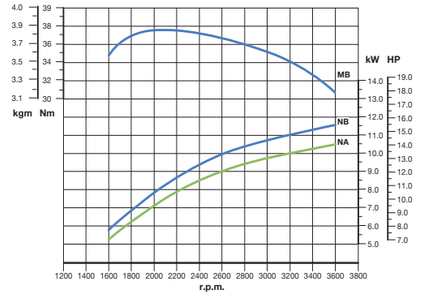




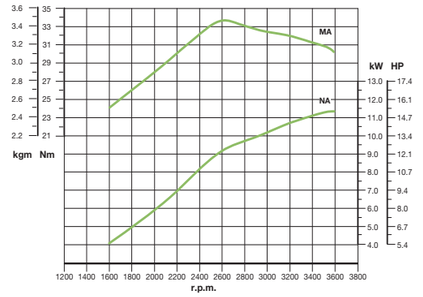
PERFORMANCE CURVES

(ACCORDING TO ISO 14396)

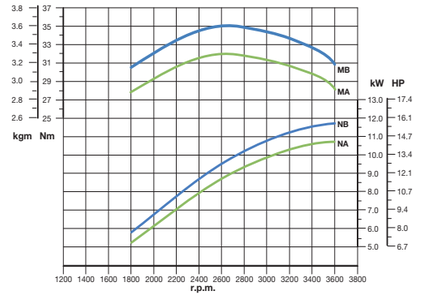
KDW702 ECE R 24



KDW702 E536



KDW702 E536A

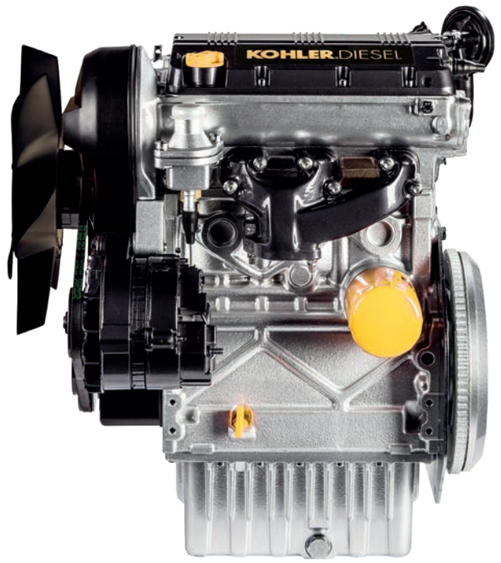


- NB - Power curve
- NA - Power curve
- M - Torque curve- (N curve)
- MB - Torque curve - (NB curve)
- MA - Torque curve - (NA curve)

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

Other available settings	Power (kW) @ rpm	Torque (Nm) @ rpm	Emission compliance
KDW 702E530	11.0 @ 3000	35.0 @ 2200	EU Stage V
KDW 702E533	10.7 @ 3350	33.0 @ 2600	US Tier 4 Final

KDW
1003



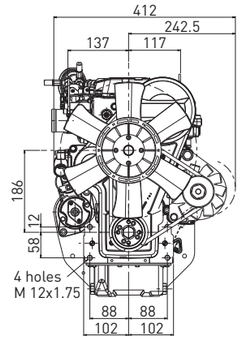
Quick specifications	KDW1003 ECE R 24	KDW 1003E536	KDW1003 E536A
CYLINDERS	3	3	3
MAX POWER kW (hp)@rpm	18.6 (24.9) @ 3600	17.7 (23.7) @ 3600	18.8 (25.2) @ 3600
MAX TORQUE Nm@rpm	62.5 @ 2000	50.0 @ 2600	63.0 @ 2300
EMISSION COMPLIANCE	ECE R 24	EU Stage V US Tier 4 Final	EU Stage V

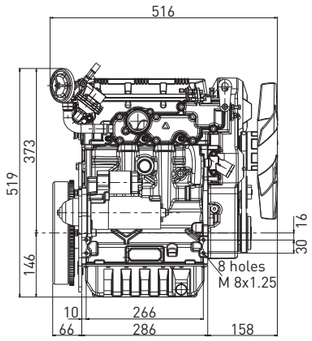
HVO APPROVED FOR HVO RENEWABLE FUEL

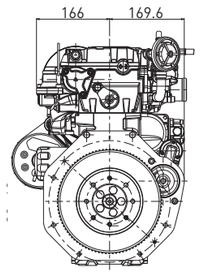
(Power & torque NB curve)

DATA

Dimensions (mm)



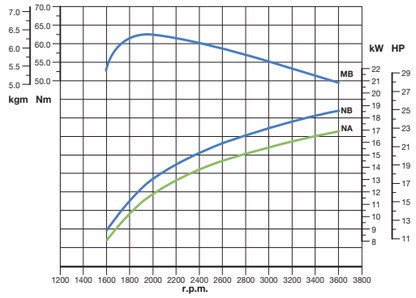




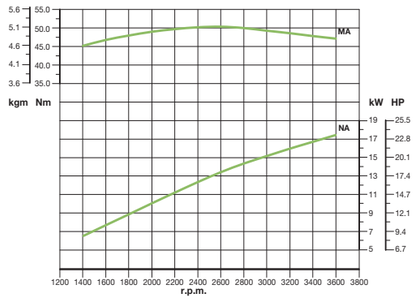
PERFORMANCE CURVES

(ACCORDING TO ISO 14396)

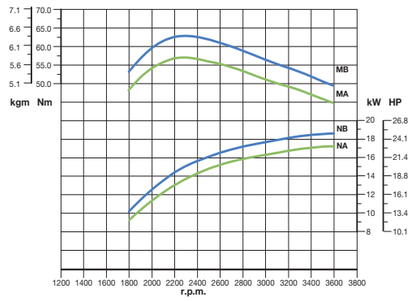
KDW1003 ECE R 24



KDW1003 E536



KDW1003 E536A

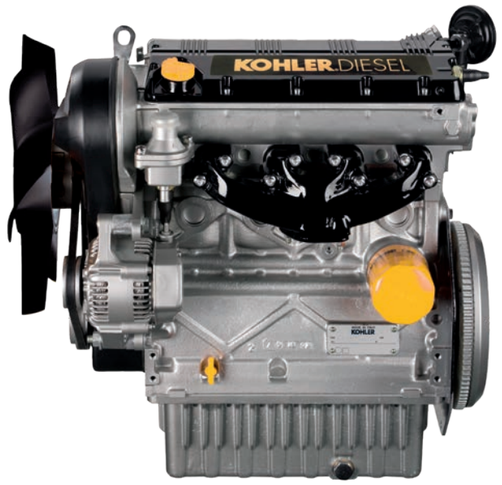


- NB - Power curve
- NA - Power curve
- MB - Torque curve - (NB curve)
- MA - Torque curve - (NA curve)

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

Other available settings	Max Power (kW) @ rpm	Max Torque (Nm) @ rpm	Emission compliance
KDW 1003E530A	18.0 @ 3000	63.0 @ 2300	EU Stage V
KDW 1003E530	14.8 @ 3000	50.0 @ 2200	EU Stage V US Tier 4 Final
KDW 1003E524A	14.0 @ 2400	60.0 @ 1800	EU Stage V

KDW
1404



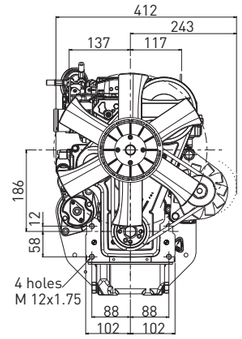
Quick specifications	KDW1404 EA36	KDW1404 E527A	KDW1404 E530
CYLINDERS	4	4	4
MAX POWER kW (hp)@rpm	24.5 (32.8) @ 3600	17.9 (24.0) @ 2700	18.8 (25.2) @ 3000
MAX TORQUE Nm@rpm	78.0 @ 2000	65.0 @ 1600	78.0 @ 2000
EMISSION COMPLIANCE	EU Stage IIIA	EU Stage V US Tier 4 Final	EU Stage V

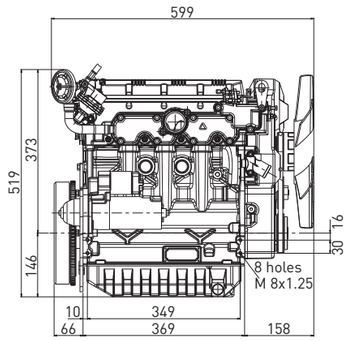
HVO APPROVED FOR HVO RENEWABLE FUEL

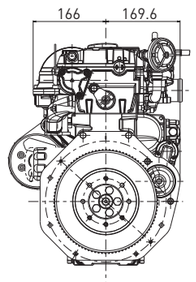
(Power & torque NB curve)

DATA

Dimensions (mm)



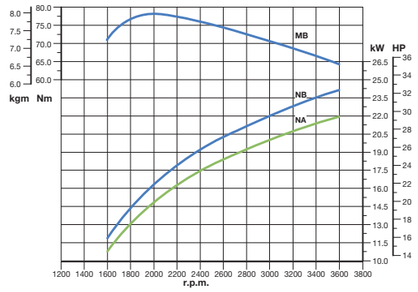




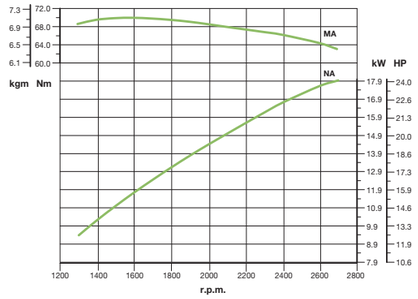
PERFORMANCE CURVES

(ACCORDING TO ISO14396)

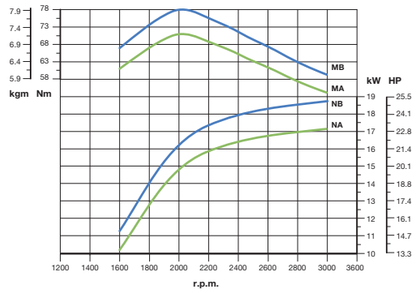
KDW1404 EA36



KDW1404 E527A



KDW1404 E530



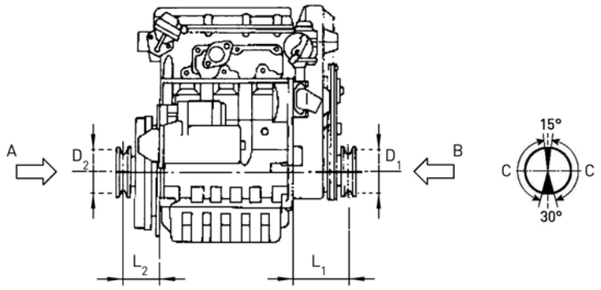
- NB - Power curve
- NA - Power curve
- MB - Torque curve - (NB curve)
- MA - Torque curve - (NA curve)

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

Other available settings

Other available settings	Max Power (kW)@rpm	Max Torque (Nm)@rpm	Emission compliance
KDW 1404E527	18.8 @ 2700	78.0 @ 2000	EU Stage V

APPLICATIONS SPECS



KDW502

Minimum pulley diameters for belt drive

V BELT

$$D_2\ (mm) \geq 116\ [191 + L_2(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

COGGED BELT

$$D_1\ (mm) \geq 89\ [191 + L_1(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

Max intermittent axial load in both directions A-B= 300 kg

C - Zone in which the radial loads can be applied

KDW702

Minimum pulley diameters for belt drive

V BELT

$$D_2\ (mm) \geq 143\ [101 + L_2(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

Max intermittent axial load in both directions A-B= 300 kg

COGGED BELT

$$D_1\ (mm) \geq 99\ [101 + L_1(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

C - Zone in which the radial loads can be applied

KDW1003

Minimum pulley diameters for belt drive

V BELT

$$D_2\ (mm) \geq 114\ [101 + L_2(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

Max intermittent axial load in both directions A-B= 300 kg

COGGED BELT

$$D_1\ (mm) \geq 79\ [101 + L_1(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

C - Zone in which the radial loads can be applied

KDW1404

Minimum pulley diameters for belt drive

V BELT

$$D_2\ (mm) \geq 110\ [101 + L_2(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

Max intermittent axial load in both directions A-B= 300 kg

COGGED BELT

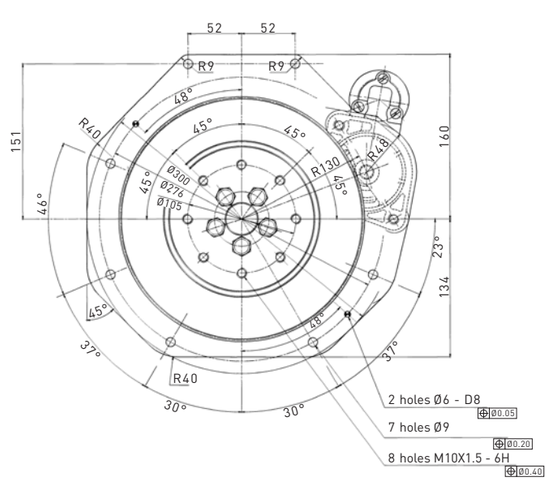
$$D_1\ (mm) \geq 72\ [101 + L_1(mm)]\ \frac{N\ (kW)}{n\ (rpm)}$$

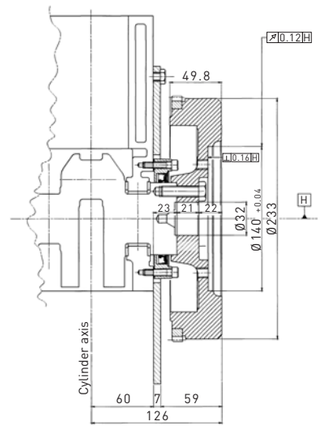
C - Zone in which the radial loads can be applied

AVAILABLE FLANGES*

Standard version - KDW502 / KDW702 / KDW1003 / KDW1404

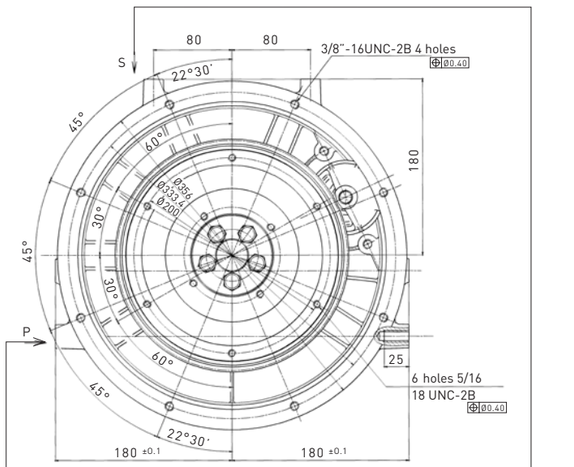
Flange standard type KDW502 / KDW702 / KDW1003 / KDW1404 — **Standard version**

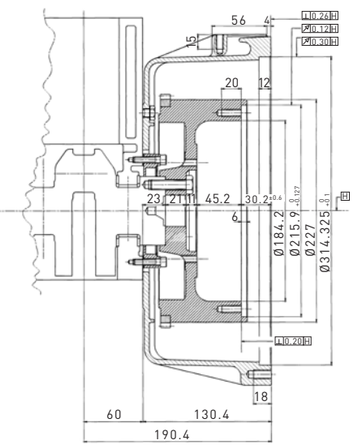




Version Genset - KDW502 / KDW702 / KDW1003 / KDW1404

Flange Genset KDW502 / KDW702 / KDW1003 / KDW1404 — **Standard version**





* Other flanges available on request

TECHNICAL SPECIFICATIONS

Model		KDW502		KDW702		
Engine specs	4 stroke diesel engine with cylinder in line	•		•		
	Liquid cooled	•		•		
	Indirect injection with injector pump on head	•		•		
	Overhead camshaft belt driven	•		•		
	Double PTO on crankshaft	•		•		
	3rd PTO on the distribution	•		•		
	Counterclockwise rotation (1st PTO)	•		•		
	Forced lubrication with vane pump on the crankshaft	•		•		
	Full flow external oil filter	•		•		
	Coolant pump in the engine block	•		•		
	Automatic extra fuel starting device	•		•		
	Centrifugal governor	•		•		
	Torque adapter	•		•		
	Aluminum cylinder head	•		•		
	Cast iron engine block with re-borable integral liners	-		•		
	Die-cast aluminum engine block with reinforced structure	•		-		
	2 valves per cylinder	•		•		
	Closed crankcase ventilation system	•		•		
	Cab heater provision	•		-		
Technical features	Cylinder	2		2		
	Bore (mm)	71,5		75		
	Stroke (mm)	62		77.6		
	Engine displ (cm³)	498		686		
	Injection system	IDI		IDI		
	Compression ratio	22.8:1		22.8:1		
Performance	Emission compliance	ECE R 24	Euro 4	ECE R 24	US Tier 4 Final	EU Stage V
	Rating (kW/HP): N (80/1269/CEE)ISO 1585	(@ 3600)	(@ 3600)	(@ 3600)	(@ 3600)	(@ 3600)
	NB	8.6 /11.5	6 /8	12.5 /16.8	-	-
	NA	8.0 /10.7	-	11.5 /15.4	11.5/15.4	11.6/15.5
		7.3/ 9.8	-	10.7 /14.3	-	-
	Max torque (Nm@rpm)	23.0 @ 2000	21.0 @ 1800	37.8 @ 2000	34.0 @ 2600	35.0 @ 2600
	Min idling speed (rpm)	900		900		
Fuel compatibility	UNI EN 590-2010	•		•		
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 15	•		•		
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 500	•		•		
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 15	•		•		
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 500	•		•		
	ARCTIC EN 590/ASTM D 975-09 B	•		•		
	High Sulfur Fuel < 5000 ppm (< 0.5%)	•		•		
	High Sulfur Fuel > 5000 ppm (> 0.5%)	•		•		
	Military NATO Fuels F34 - F35 - F44 - F63 - F64 - F65 *	•		•		
	Military US Fuels JP5 - JP8 (AVTUR) *	•		•		
	Jet Fuel -Jet A/ A1*	•		•		
	HVO - Hydrotreated Vegetable Oil	•		•		
Service features	Standard oil sump capacity (l)	1.4		1.6		
	Oil consumption (kg/h)	0.007		0.005		
	Oil change interval std/synthetic (hr)	150**		250**		
	Oil filter change interval std/synthetic (hr)	150**		250**		
Physical characteristics	H × L × W (mm)	490 × 426 × 387		519 × 424 × 412		
	Dry weight (kg)	54		66		
	Ambient operating temps (°C)	-15 +50***		-15 +50***		
	Gradeability-all round (intermittent -30 min) (deg)	25		25		
	Gradeability-all round (peak value -1 min) (deg)	35		35		
	Cap. of air required for correct combustion @3600 (l/min)	910		1240		
	Cap. of air required for correct cooling @3600 (m³/min)	65 (1:1.23)		65 (1:1.23)		
Lubrication	Oil type	SAE 5W 40 / API SJ/CF4		SAE 5W 40 / API SJ/CF4		
Auxiliary PTOs (3rd optional)	Max torque (Nm)	-		37.0 @ 1800 rpm		
	Drive ratio	0.5:1		0.5:1		

Model		KDW1003			KDW1404		
Engine specs	4 stroke diesel engine with cylinder in line	•			•		
	Liquid cooled	•			•		
	Indirect injection with injector pump on head	•			•		
	Overhead camshaft belt driven	•			•		
	Double PTO on crankshaft	•			•		
	3rd PTO on the distribution	•			•		
	Counterclockwise rotation (1st PTO)	•			•		
	Forced lubrication with vane pump on the crankshaft	•			•		
	Full flow external oil filter	•			•		
	Coolant pump in the engine block	•			•		
	Automatic extra fuel starting device	•			•		
	Centrifugal governor	•			•		
	Torque adapter	•			•		
	Aluminum cylinder head	•			•		
	Cast iron engine block with re-borable integral liners	•			•		
	Die-cast aluminum engine block with reinforced structure	-			-		
	2 valves per cylinder	•			•		
	Closed crankcase ventilation system	•			•		
	Cab heater provision	-			-		
Technical features	Cylinder	3			4		
	Bore (mm)	75			75		
	Stroke (mm)	77.6			77.6		
	Engine displ (cm³)	1028			1372		
	Injection system	IDI			IDI		
	Compression ratio	22.8:1			22.8:1		
Performance	Emission compliance	ECE R 24	US Tier 4 Final	EU Stage V	EU Stage IIIA	US Tier 4 Final	EU Stage V
	Rating (kW/HP): N (80/1269/CEE)ISO 1585	(@ 3600)	(@ 3600)	(@ 3600)	(@ 3600)	(@ 2700)	(@ 3000)
	NB	20.0 /26.8	-	-	26.0 /34.8	-	-
	NA	18.6 /24.9	17.7 /23.7	18.8 /25.2	24.5 /32.8	17.9 /24.0	18.8 /25.2
		17.0 /22.8	-	-	22.4 /30.0	-	-
	Max torque (Nm@rpm)	62.5 @ 2000	50.0 @ 2600	63.0 @ 2300	78.0 @ 2000	70.0 @ 1600	78.0 @ 2000
	Min idling speed (rpm)	900			900		
Fuel compatibility	UNI EN 590-2010	•			•		
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 15	•			•		
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 500	•			•		
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 15	•			•		
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 500	•			•		
	ARCTIC EN 590/ASTM D 975-09 B	•			•		
	High Sulfur Fuel < 5000 ppm (< 0.5%)	•			•		
	High Sulfur Fuel > 5000 ppm (> 0.5%)	•			•		
	Military NATO Fuels F34 - F35 - F44 - F63 - F64 - F65 *	•			•		
	Military US Fuels JP5 - JP8 (AVTUR) *	•			•		
	Jet Fuel -Jet A/ A1*	•			•		
	HVO - Hydrotreated Vegetable Oil	•			•		
Service features	Standard oil sump capacity (l)	2.4			3.2		
	Oil consumption (kg/h)	0.008			0.011		
	Oil change interval std/synthetic (hr)	250**			250**		
	Oil filter change interval std/synthetic (hr)	250**			250**		
Physical characteristics	H × L × W (mm)	519 × 516 × 412			519 × 599 × 412		
	Dry weight (kg)	85			98		
	Ambient operating temps (°C)	-15 +50***			-15 +50***		
	Gradeability-all round (intermittent -30 min) (deg)	25			25		
	Gradeability-all round (peak value -1 min) (deg)	35			35		
	Cap. of air required for correct combustion @3600 (l/min)	1850			2470		
	Cap. of air required for correct cooling @3600 (m³/min)	80 (1:1)			115 (1:1)		
Lubrication	Oil type	SAE 5W 40 API SERVICE CF			SAE 5W 40 API SERVICE CF		
Auxiliary PTOs (3rd optional)	Max torque (Nm)	37.0 @ 1800 rpm			37.0 @ 1800 rpm		
	Drive ratio	0.5:1			0.5:1		

* With restrictions ** According to operating conditions *** -32° on demand

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For more information, contact your KOHLER source of supply.
Kohler Co. reserves the right to make modifications without prior notice.

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