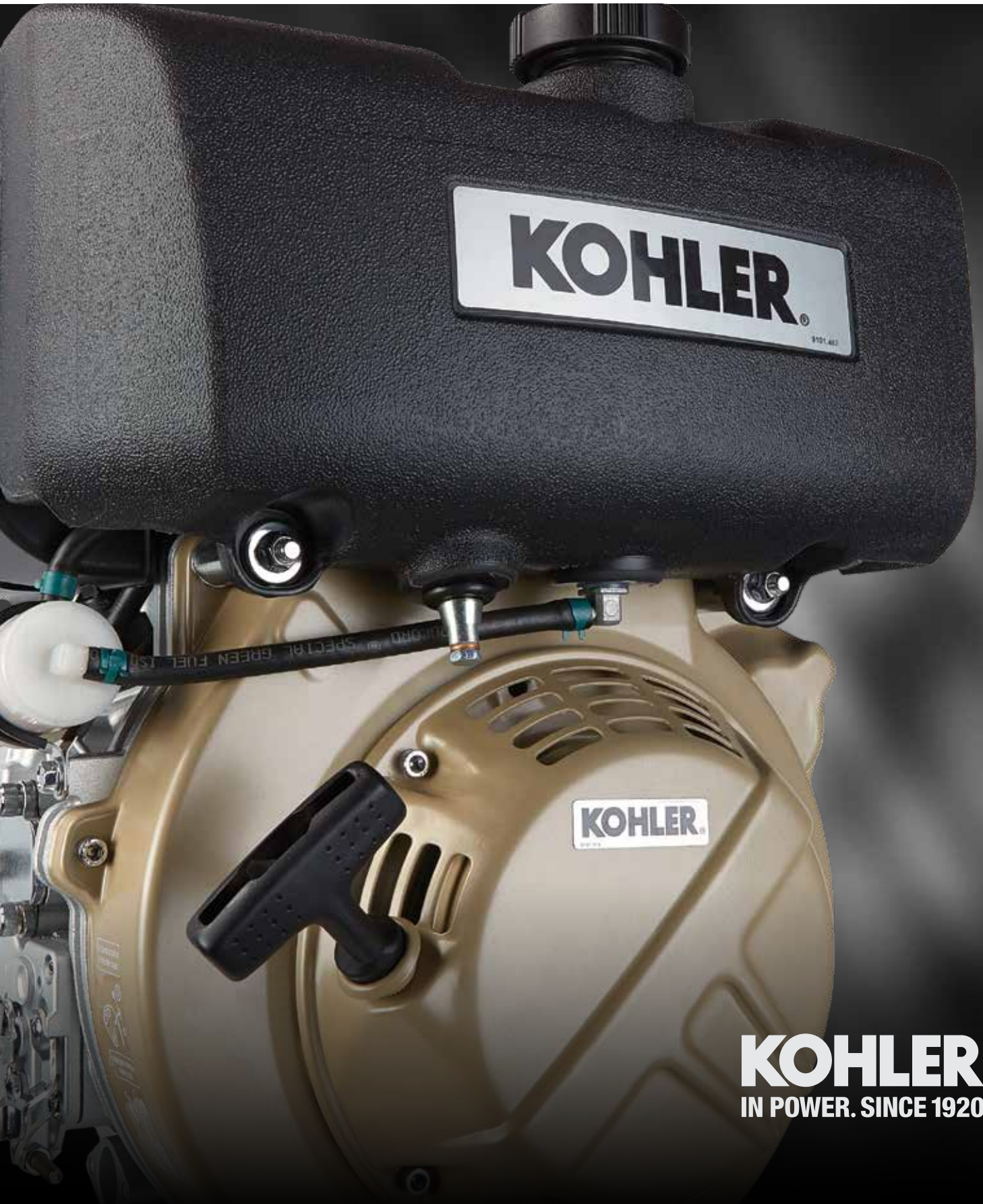


# AIR-COOLED DIESEL ENGINES

2.7 – 8.8 kW | 3.7 – 12 hp



**KOHLER**<sup>®</sup>  
IN POWER. SINCE 1920.

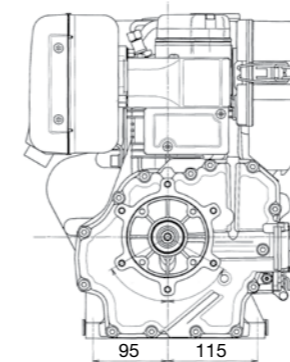
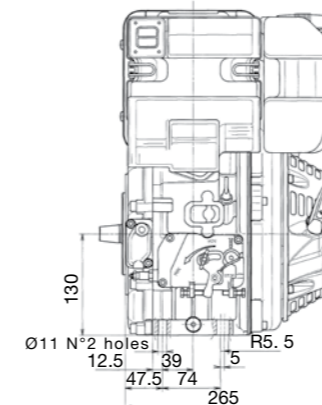
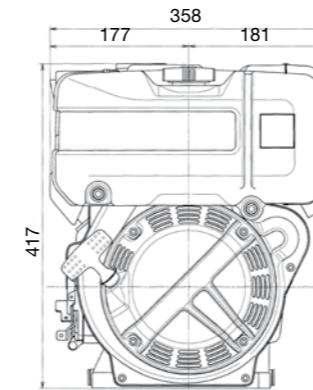


# KD 225



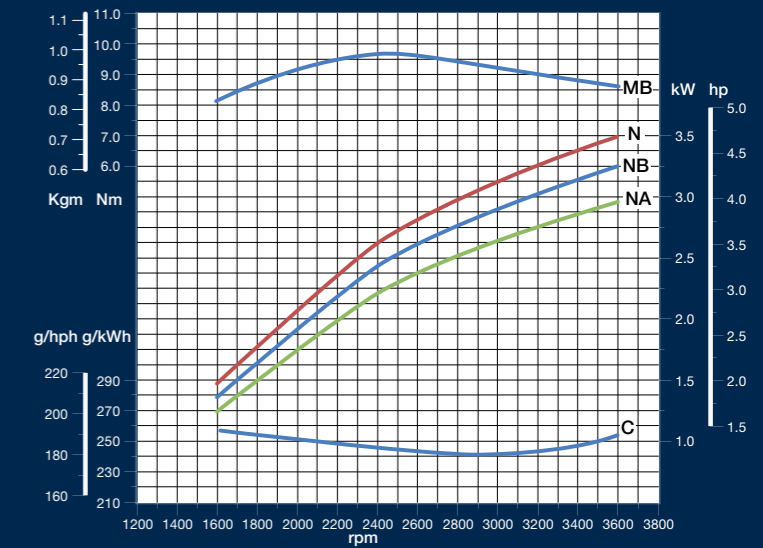
## DATA

Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)



N - Power curve - 80/1269/CE E-ISO 1585  
 NB - Power curve - ISO 3046/1 -IFN  
 NA - Power curve - ISO 3046/1 - ICXN  
 MB - Torque curve - (NB curve)  
 C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

### Quick specifications

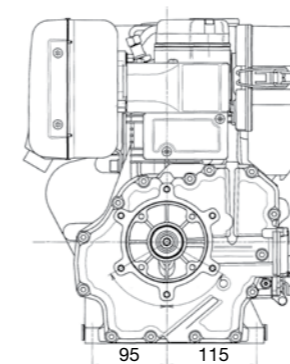
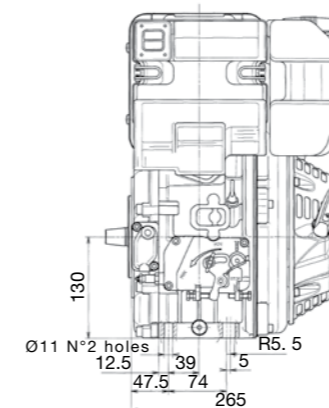
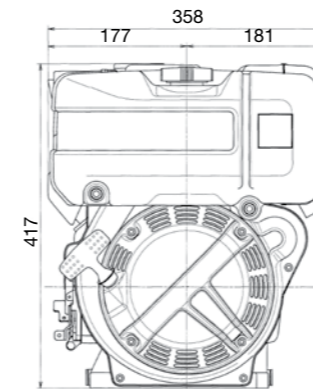
CYLINDERS		1
MAX POWER	kW (hp)@rpm	3.5 (4.8) @ 3600
MAX TORQUE	Nm@rpm	10.4 @ 2400

# KD 225S



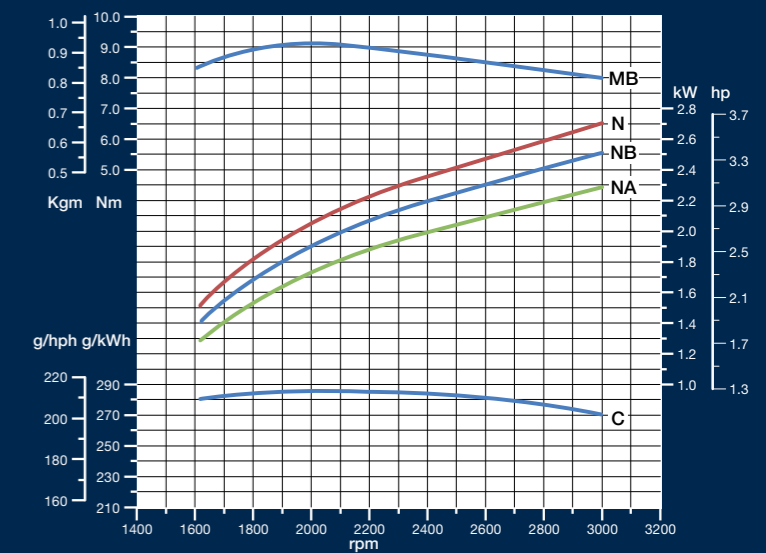
## DATA

Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)



- N - Power curve - 80/1269/CE E-ISO 1585
- NB - Power curve - ISO 3046/1 - IFN
- NA - Power curve - ISO 3046/1 - ICXN
- MB - Torque curve - (NB curve)
- C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

Sound pressure level up to 2 dB(A) less than the standard version

### Quick specifications

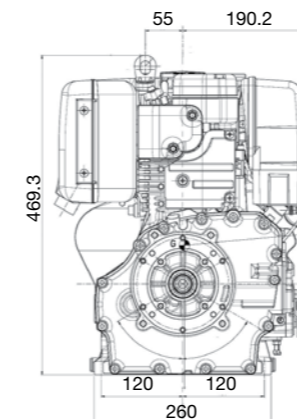
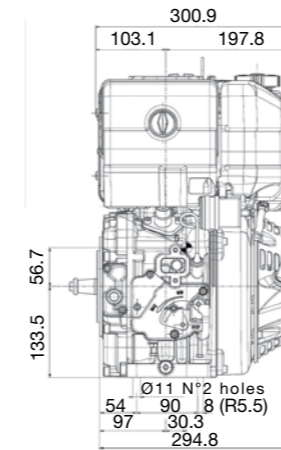
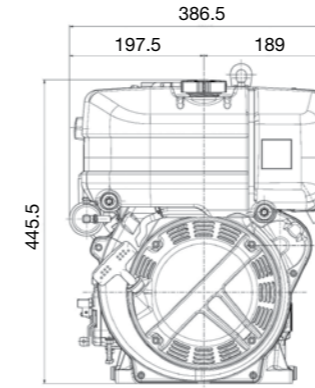
CYLINDERS		1
MAX POWER	kW (hp)@rpm	2.7 (3.7) @ 3000
MAX TORQUE	Nm@rpm	9.8 @ 2000

# KD 350



## DATA

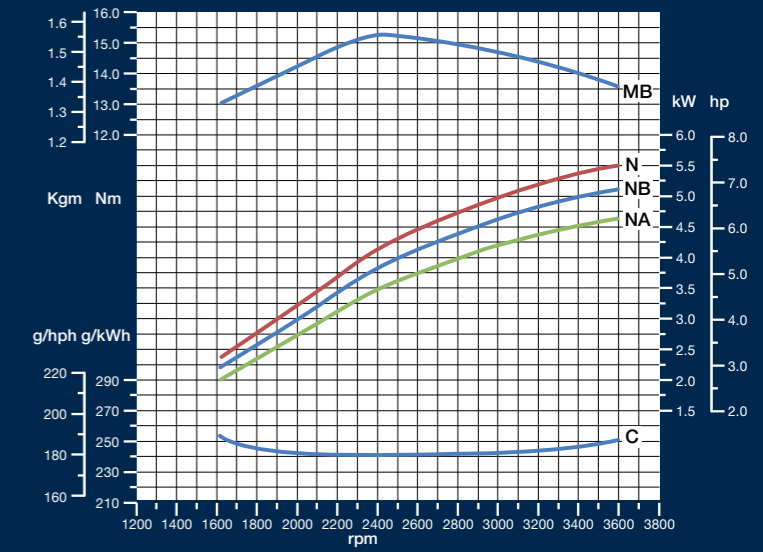
Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)

5.1 kw (6.8hp) @ 3600 rpm



- N - Power curve - 80/1269/CE E-ISO 1585
- NB - Power curve - ISO 3046/1 - IFN
- NA - Power curve - ISO 3046/1 - ICXN
- MB - Torque curve - (NB curve)
- C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

### Quick specifications

CYLINDERS		1	1	1
MAX POWER	kW (hp)@rpm	5.1 (6.8) @ 3600	5.0 (6.7) @ 3600	5.3 (7.1) @ 3600
MAX TORQUE	Nm@rpm	15.3 @ 2400	14.6 @ 2500	16.0 @ 2500
EMISSION COMPLIANCE		-	US TIER 4 Final	EU STAGE V*

\*Available in 2019

# KD 350S

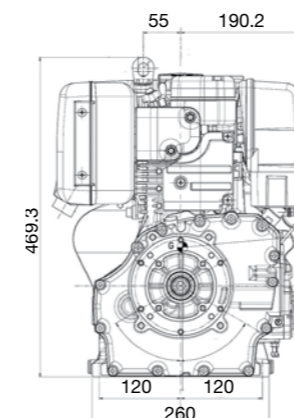
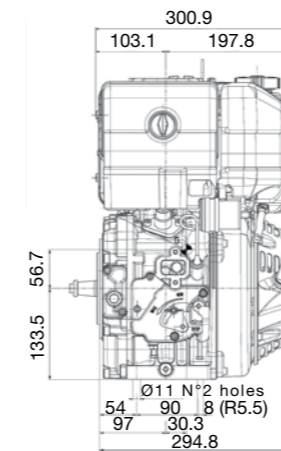
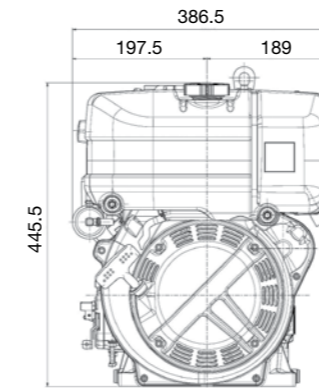


## Quick specifications

CYLINDERS		1
MAX POWER	kW (hp)@rpm	5.0 (6.8) @ 3600
MAX TORQUE	Nm@rpm	14.7 @ 2200

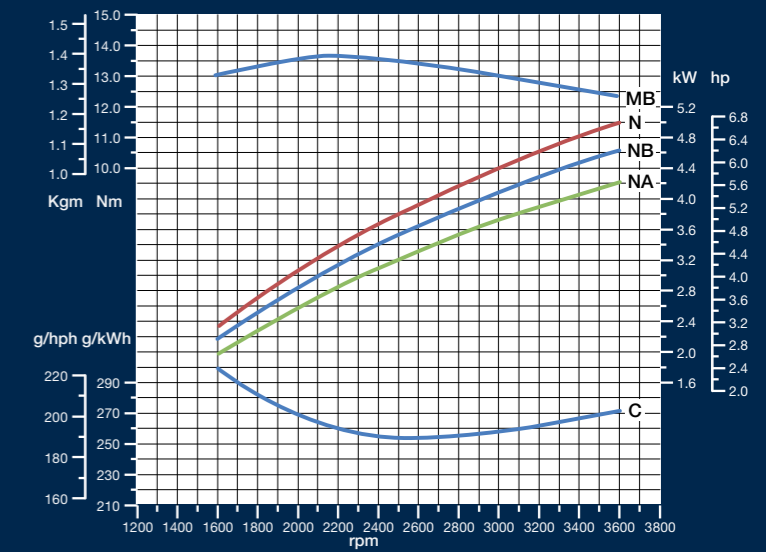
## DATA

Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)



- N - Power curve - 80/1269/CE E-ISO 1585
- NB - Power curve - ISO 3046/1 - IFN
- NA - Power curve - ISO 3046/1 - ICXN
- MB - Torque curve - (NB curve)
- C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

Sound pressure level up to 2 dB(A) less than the standard version

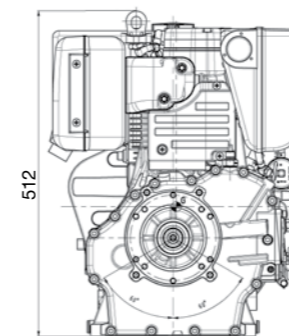
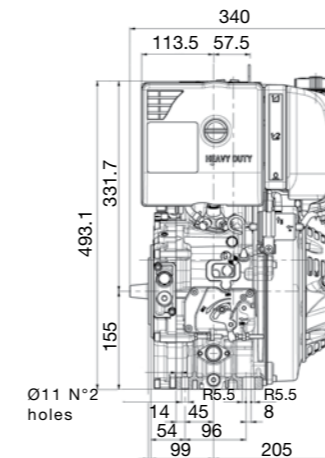
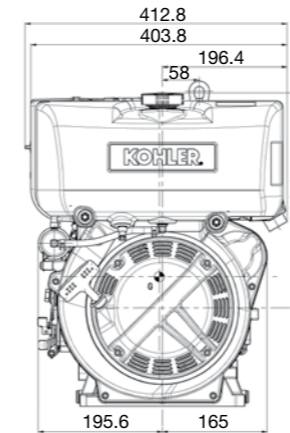
# KD15

## 440



### DATA

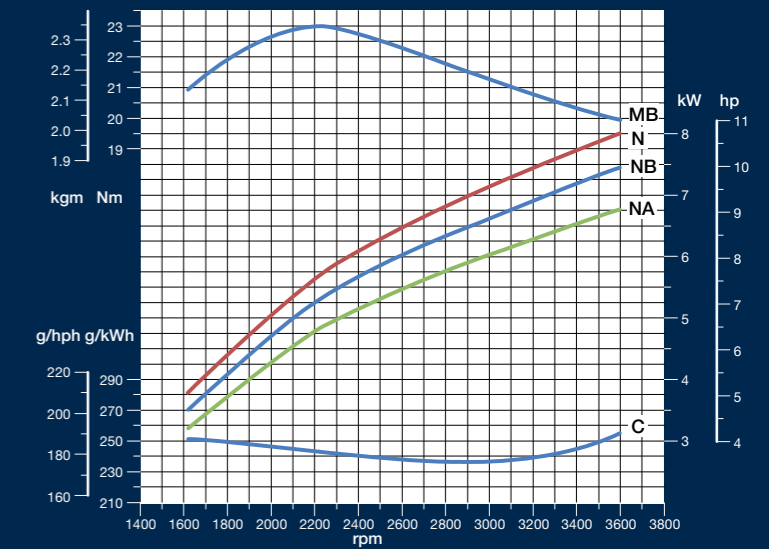
Dimensions (mm)



### PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)

7.5 kw (10.1 hp) @ 3600 rpm



- N - Power curve - 80/1269/CE E-ISO 1585
- NB - Power curve - ISO 3046/1 - IFN
- NA - Power curve - ISO 3046/1 - ICXN
- MB - Torque curve - (NB curve)
- C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

#### Quick specifications

	1	1	1
CYLINDERS	1	1	1
MAX POWER	7.5 (10.1) @ 3600	6.4/8.5	7.5 (10.1) @ 3600
MAX TORQUE	23 @ 2200	23 @ 2200	24.5 @ 2200
EMISSION COMPLIANCE	-	US TIER 4 Final	EU STAGE V*

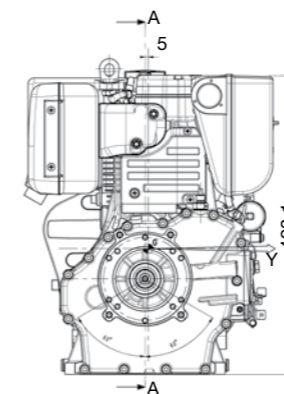
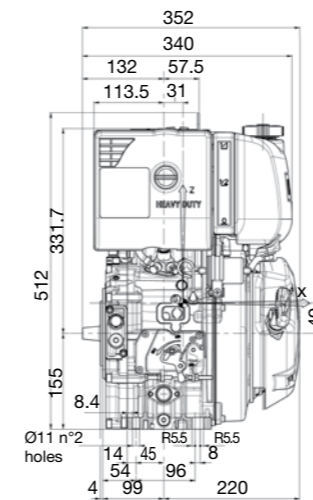
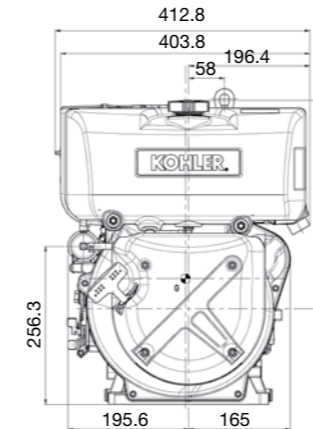
\*Available in 2019

# KD15 440S



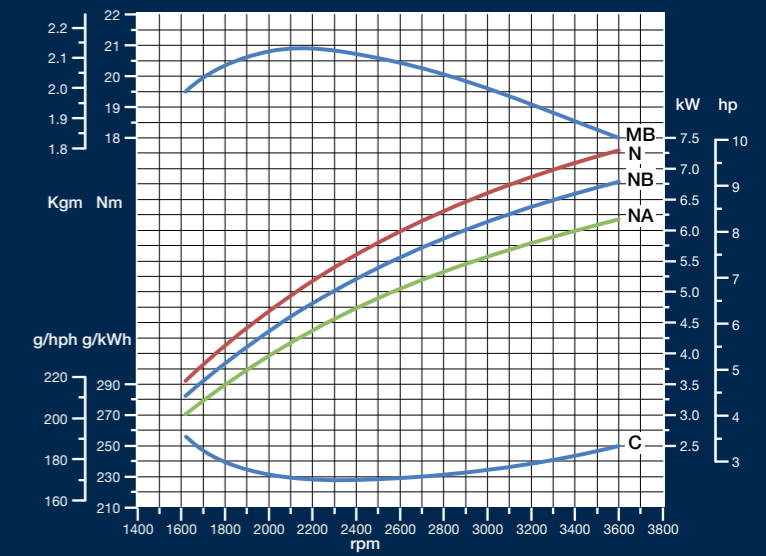
## DATA

Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)



- N - Power curve - 80/1269/CE E-ISO 1585
- NB - Power curve - ISO 3046/1 - IFN
- NA - Power curve - ISO 3046/1 - ICXN
- MB - Torque curve - (NB curve)
- C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

Sound pressure level up to 2 Db less than the standard version

### Quick specifications

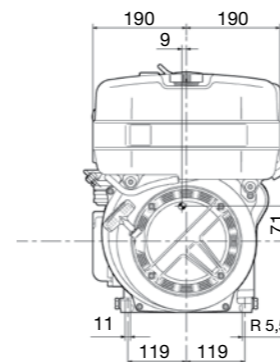
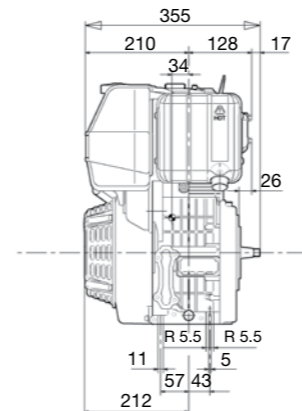
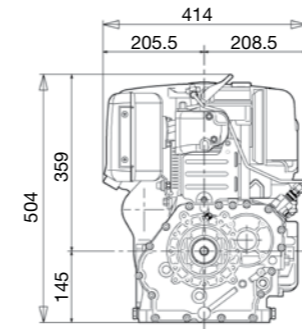
CYLINDERS		1
MAX POWER	kW (hp)@rpm	7.3 (10) @ 3600
MAX TORQUE	Nm@rpm	22.5 @ 2100



# KD 500

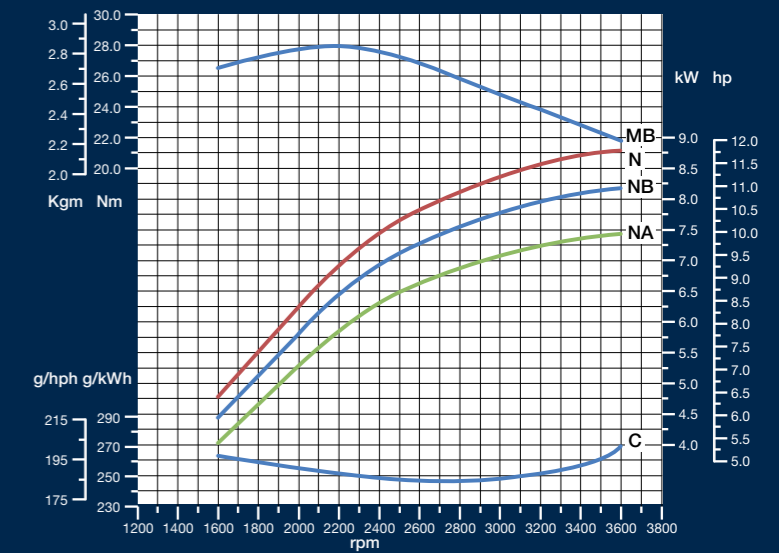
## DATA

Dimensions (mm)



## PERFORMANCE CURVES

(IFN-ACCORDING TO ISO 3046 and ISO 14396)



N - Power curve - 80/1269/CE E-ISO 1585  
 NB - Power curve - ISO 3046/1 - IFN  
 NA - Power curve - ISO 3046/1 - ICXN  
 MB - Torque curve - (NB curve)  
 C - Specific fuel consumption - (NB curve)

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. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

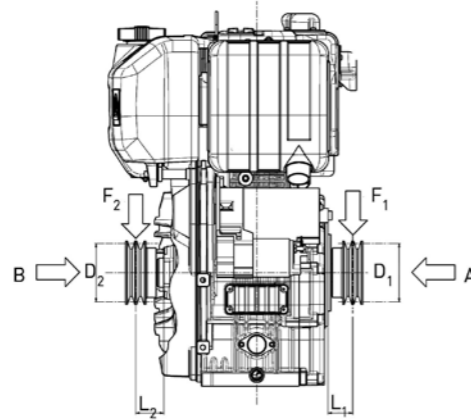
Setting @ 3000 rpm

Power max. N* (kW)	Torque max. (Nm)
8.2 @ 3000 rpm	30 @ 2200 rpm

### Quick specifications

CYLINDERS		1
MAX POWER	kW (hp)@rpm	8.8 (12) @ 3600
MAX TORQUE	Nm@rpm	30 @ 2200

# APPLICATION SPECIFICATIONS



## KD225-225S

Minimum pulley diameters for belt drive

$$D_2 \text{ (mm)} \geq 740 [90 + L_2 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

$$D_1 \text{ (mm)} \geq 820 [55 + L_1 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

Max intermittent axial load in both directions A - B = 150 kg

Max radial force on pulley for belt drive

$$F_2 \text{ (N)} \leq \frac{77000}{90+L_2 \text{ (mm)}}$$

$$F_1 \text{ (N)} \leq \frac{70000}{55+L_1 \text{ (mm)}}$$

## KD350-350S

Minimum pulley diameters for belt drive

$$D_2 \text{ (mm)} \geq 860 [60 + L_2 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

$$D_1 \text{ (mm)} \geq 820 [55 + L_1 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

Max intermittent axial load in both directions A - B = 200 kg

Max radial force on pulley for belt drive

$$F_2 \text{ (N)} \leq \frac{67000}{60+L_2 \text{ (mm)}}$$

$$F_1 \text{ (N)} \leq \frac{70000}{55+L_1 \text{ (mm)}}$$

## KD15-440

Minimum pulley diameters for belt drive

$$D_2 \text{ (mm)} \geq 620 [66 + L_2 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

$$D_1 \text{ (mm)} \geq 650 [53 + L_1 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

Max intermittent axial load in both directions A - B = 2000 N Max

Max radial force on pulley for belt drive

$$F_1 \text{ (N)} \leq \frac{89000}{53+L_1 \text{ (mm)}}$$

$$F_2 \text{ (N)} \leq \frac{92000}{66+L_2 \text{ (mm)}}$$

## KD500

Minimum pulley diameters for belt drive

$$D_2 \text{ (mm)} \geq 900 [48 + L_2 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

$$D_1 \text{ (mm)} \geq 570 [55 + L_1 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (rpm)}}$$

Max intermittent axial load in both directions A - B = 200 kg

Max radial force on pulley for belt drive

$$F_2 \text{ (N)} \leq \frac{64000}{48+L_2 \text{ (mm)}}$$

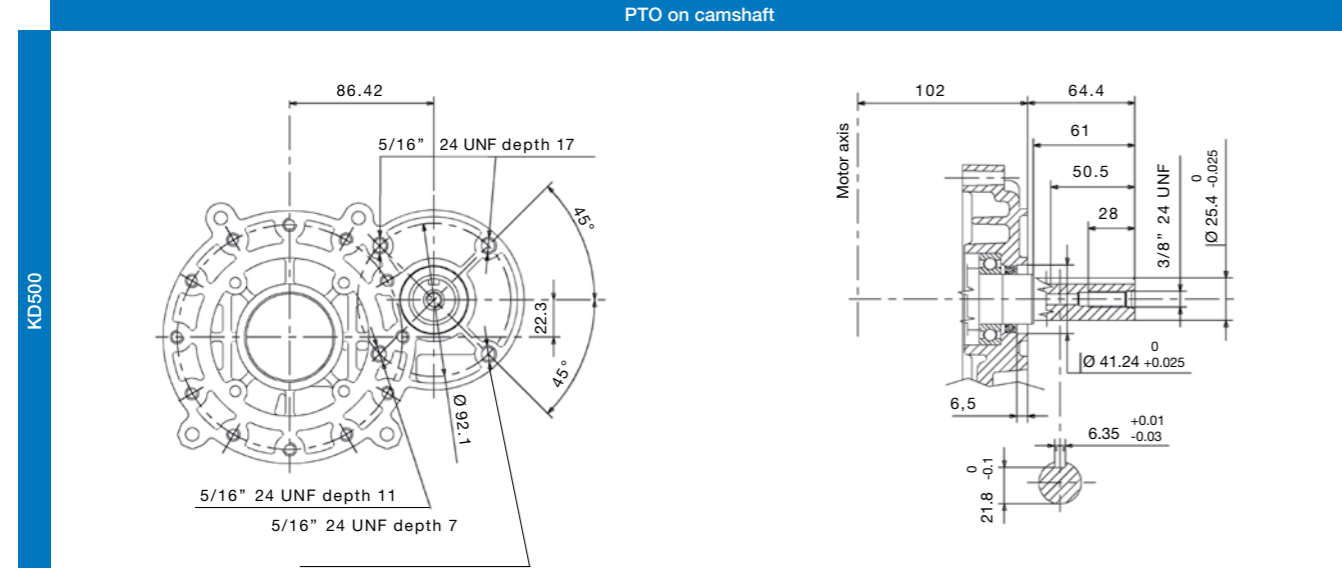
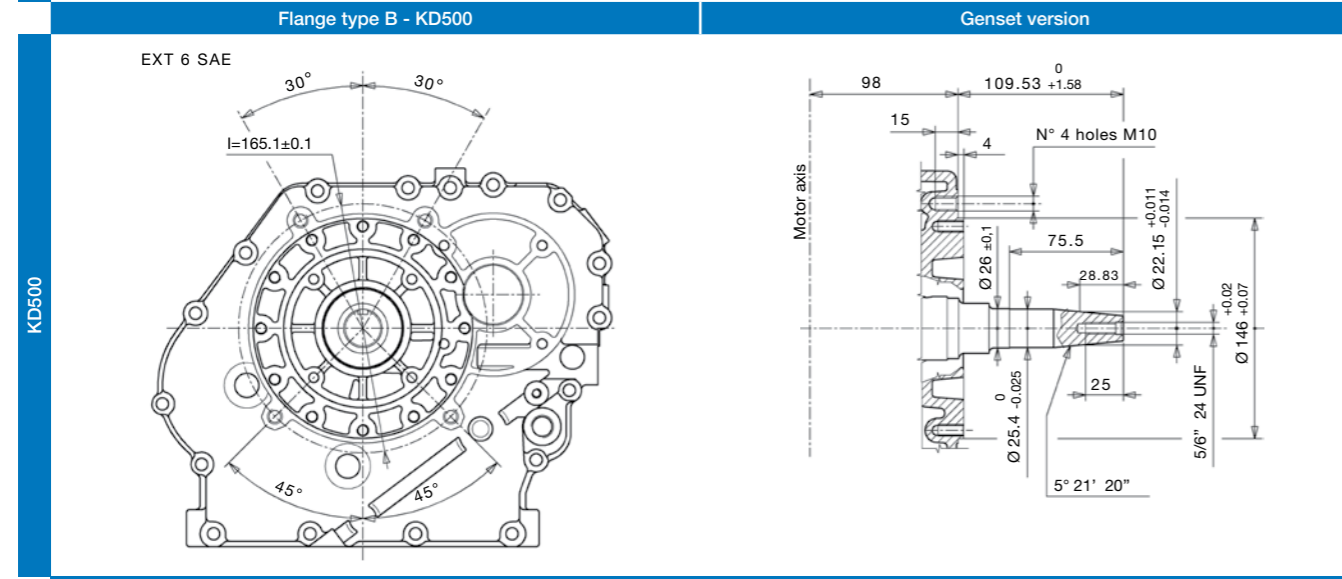
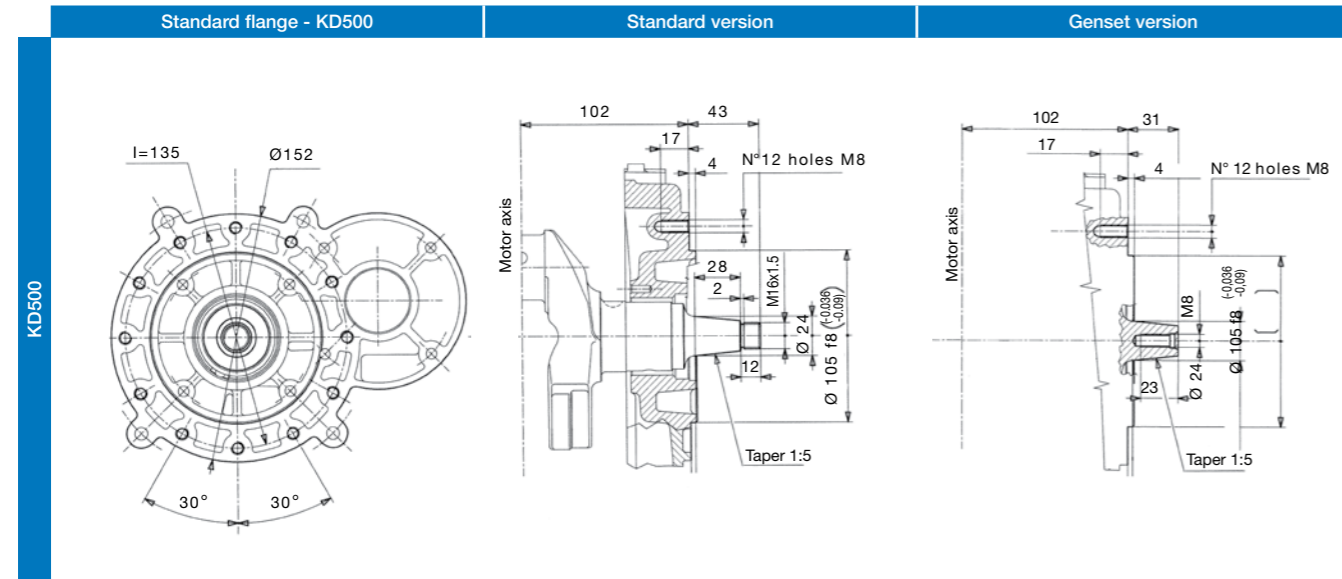
$$F_1 \text{ (N)} \leq \frac{100520}{55+L_1 \text{ (mm)}}$$

# AVAILABLE FLANGES\*

	Standard flange - KD225-225S / KD350-350S	Industrial version	
Standard version - KD225-225S / KD350-350S			
Flange type A - KD225-225S	Flange SAE J609a	Genset version	Industrial version
KD225-225S			
	EXT a4 J609a	EXT 3 SAE J609a	
Flange type B - KD350-350S	Flange SAE J609a	Genset version	Industrial version
KD350-350S			
	EXT 6 SAE	EXT.4 SAE	

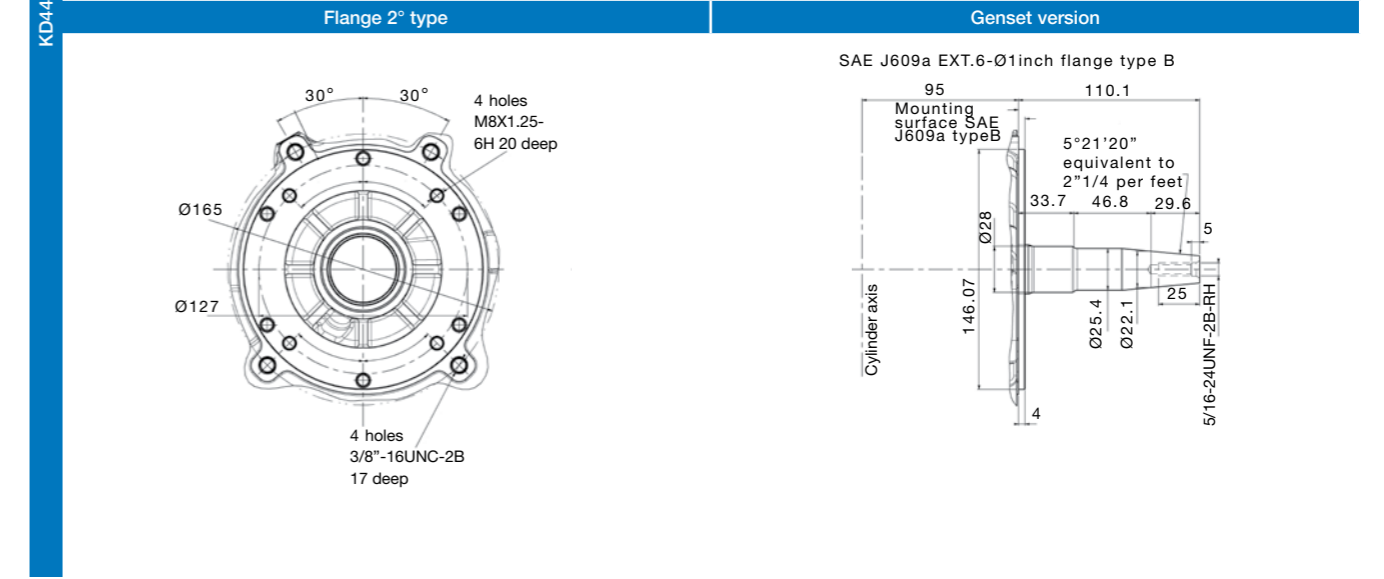
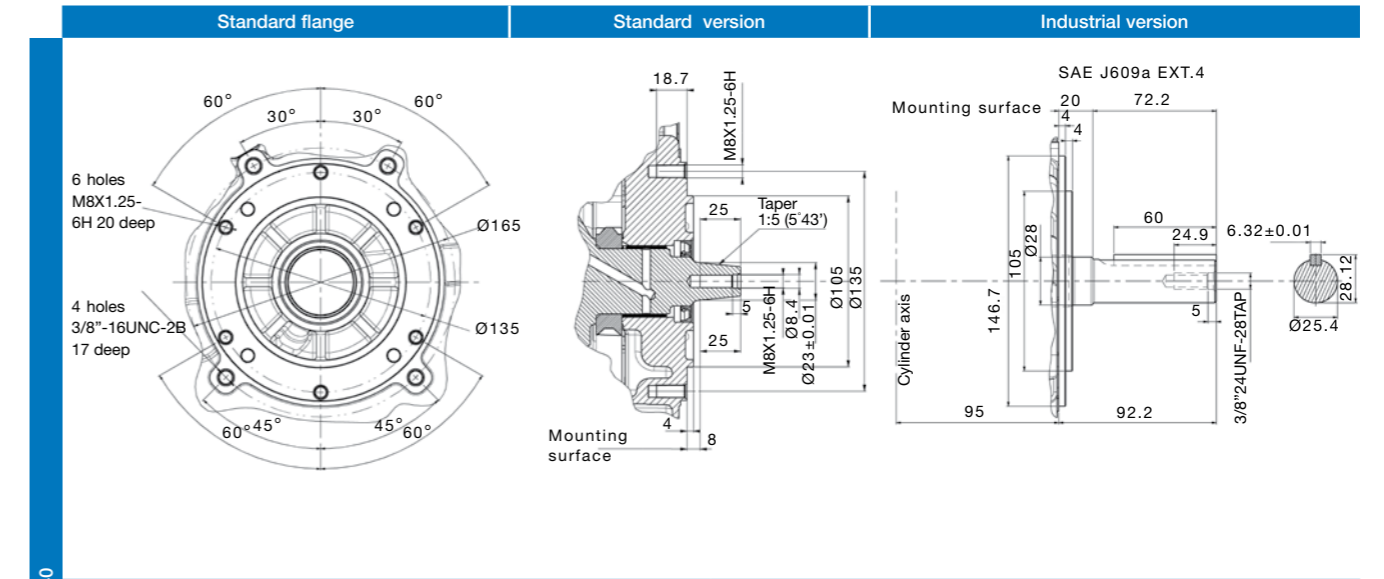
\*Other flanges available on request

# AVAILABLE FLANGES\*



\*Other flanges available on request

# AVAILABLE FLANGES\*



\*Other flanges available on request

# TECHNICAL SPECIFICATIONS

Model	KD225	KD225S	KD350	KD350S
Engine specs	Four-stroke air-cooled diesel engine	•	•	•
	Conical power takeoff on crankshaft	•	•	•
	Counter-clockwise rotation	•	•	•
	Forced lubrication with oil pump	•	•	•
	Centrifugal mass governor	•	•	•
	Built-in full-flow oil filter	•	•	•
	Oil breathing blow-by with safety device	•	•	•
	Automatic extra fuel starting device	•	•	•
	Self-bleeding fuel system	•	•	•
	Torque adjuster	•	•	•
	Automatic compression release	•	•	•
	Die-cast aluminum crankcase with integral cast-iron cylinder liner	•	•	•
	Reborable independent cast-iron cylinders	-	-	-
	Aluminum cylinder head	•	•	•
	Built-in rigid feet	•	•	•
Hydraulic tappets	-	-	-	
Technical features	Cylinder	1	1	1
	Bore (mm)	69	69	82
	Stroke (mm)	60	60	66
	Engine displacement (cm <sup>3</sup> )	224	224	349
	Injection system	DI	DI	DI
	Compression ratio	21:1	21:1	20.3:1
Performance	Emission compliance	ECE R 24	-	ECE R 24
	Rating (kW/HP)	(3600 rpm)	(3000 rpm)	(3600 rpm)
	N (80/1269/CEE) ISO 1585	3.5 /4.8	2.7 /3.7	5.5 /7.4
	NB ISO 3046 IFN	3.3/4.5	2.5 /3.4	5.1 /6.8
	NA ISO 3046 ICXN	3.1/4.2	2.3 /3.1	4.7/6.2
Max torque (Nm@rpm)	10.4@2400	9.8@2000	15.3@2400	
Min idling speed	950 ÷1000	950 ÷1000	950 ÷1000	
Fuel compatibility	EN 590	•	•	•
	No 1 Diesel (U.S.) - ASTM D 975-09 B - Grade 1-D S 15	•	•	•
	No 1 Diesel (U.S.) - ASTM D 975-09 B - Grade 1-D S 500	•	•	•
	No 2 Diesel (U.S.) - ASTM D 975-09 B - Grade 2-D S 15	•	•	•
	No 2 Diesel (U.S.) - 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 U.S. Fuels JP5 - JP8 (AVTUR)*	•	•	•
	Civil Jet Fuels Jet A/ A1*	•	•	•
Service features	Fuel tank capacity (l)	3	3	4.3
	Oil sump capacity (l)	0.9	0.9	1.2
	Oil consumption (kg/h)	0.0021	0.0021	0.0032
	Oil change interval std/synthetic (hr)	250 <sup>†</sup>	250 <sup>†</sup>	250 <sup>†</sup>
	Oil filter change interval std/synthetic (hr)	500	500	500
	Dry air cleaner change interval (hr)	250	250	250
	Valve adjustment	500	500	500
Physical characteristics	H x L x W (fan excluded) (mm)	417 358 265	417 358 275	445.5 386.5 300.9
	Dry weight (kg)	28	28	33
	Daily service points - positions	1 side service	1 side service	1 side service
	Ambient operating temps (°C)	-10 to +50	-10 to +50	-10 to +50
	Gradeability-all round (intermittent -30 min) (deg)	25°	25°	25°
	Gradeability-all round (peak value -1 min) (deg)	35°	35°	35°
	Cap. of air required for correct combustion @3600 (l/min)	350	290	540
	Cap. of air required for correct cooling @3600 (l/min)	3800	3200	5000
Lubrication	Oil type	SAE 5W 40 API SERVICE CF	SAE 5W 40 API SERVICE CF	SAE 5W 40 API SERVICE CF

\* With restrictions †According to operating conditions ‡Available in 2019

# TECHNICAL SPECIFICATIONS

Model	KD15 440	KD15 440S	KD 500
Engine specs	Four-stroke air cooled diesel engine	•	•
	Conical power takeoff on crankshaft	•	•
	Counter-clockwise rotation	•	•
	Forced lubrication with oil pump	•	•
	Centrifugal mass governor	•	•
	Built-in full-flow oil filter	•	•
	Oil breathing blow-by with safety device	•	•
	Automatic extra fuel starting device	•	•
	Self-bleeding fuel system	•	•
	Torque regulator	•	•
	Automatic compression release	•	•
	Die-cast aluminum crankcase with integral cast-iron cylinder liner	•	•
	Reborable independent cast-iron cylinders	-	-
	Aluminum alloy cylinder head	•	•
	Built-in rigid feet	•	•
Hydraulic tappets	•	•	
Technical features	Cylinder	1	1
	Bore (mm)	86	86
	Stroke (mm)	76	76
	Engine displacement (cm <sup>3</sup> )	441	441
	Injection system	DI	DI
	Compression ratio	20.3:1	20.5:1
Performance	Emission compliance	ECE R 24	-
	Rating (kW/HP)	(3600 rpm)	(3600 rpm)
	N (80/1269/CEE) ISO 1585	-	-
	NB ISO 3046 IFN	7.5 /10.1	6.4 / 8.5
	NA ISO 3046 ICXN	-	-
Max torque (Nm@rpm)	23 @2200	23@2200	
Min idling speed	950 ÷1000	1150	
Fuel compatibility	EN 590	•	•
	No 1 Diesel (U.S.) - ASTM D 975-09 B - Grade 1-D S 15	•	•
	No 1 Diesel (U.S.) - ASTM D 975-09 B - Grade 1-D S 500	•	•
	No 2 Diesel (U.S.) - ASTM D 975-09 B - Grade 2-D S 15	•	•
	No 2 Diesel (U.S.) - 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 U.S. Fuels JP5 - JP8 (AVTUR)*	•	•
	Civil Jet Fuels Jet A/ A1*	•	•
Service features	Fuel tank capacity (l)	4.3	4.3
	Oil sump capacity (l)	1.2	1.2
	Oil consumption (kg/h)	0.0032	0.0032
	Oil/filter change interval std/synthetic (hr)	250 <sup>†</sup>	250 <sup>†</sup>
	Oil filter change interval std/synthetic (hr)	500	500
	Dry air cleaner change interval (hr)	500	500
	Valve adjustment	500	500
Physical characteristics	H x L x W (fan excluded) (mm)	493.1 x 412.8 x 340	493.1 x 412.8 x 352
	Dry weight (kg)	45	45
	Daily service points - positions	1 side service	1 side service
	Ambient operating temps (°C)	-10 to +50	-10 to +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)	640	640
	Cap. of air required for correct cooling @3600 (l/min)	5500	5500
Lubrication	Oil type	SAE 5W 40 API SERVICE CF	SAE 5W 40 API SERVICE CF

\*With restrictions †According to operating conditions ‡Available in 2019

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