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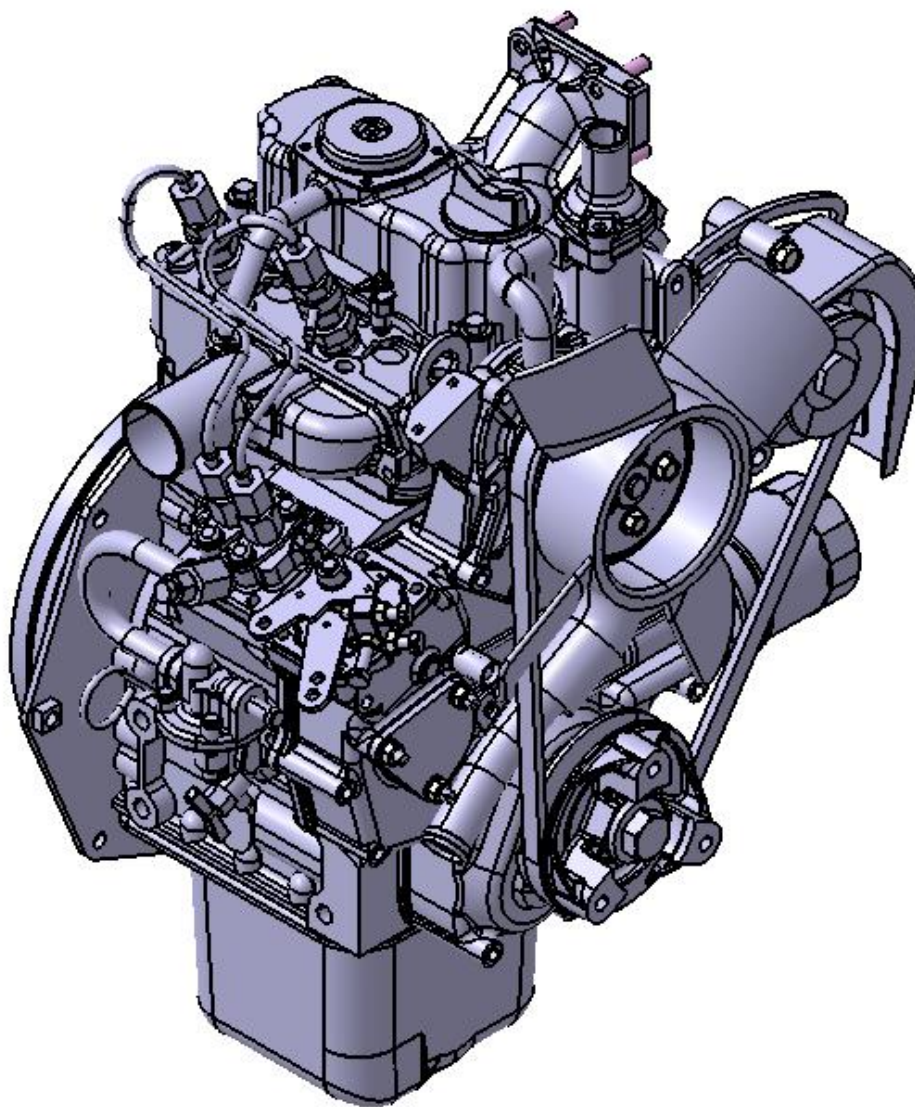
# **Technical information** **for Z482**

## Notes

- This document is applied for Kubota **Z482 model** for OEM.
- This document is intend to provide installation guide for the engine to the application.
- The information in this document subject to change without notice.

The latest document is available on the K-iSS website.  
Printed copies are for reference only.

# Z482 model



	Unit	Z482-E2	Z482-E3	Z482-E4
Cylinders		2		
Type		Vertical, water cooled 4-cycle IDI diesel engine		
Bore and Stroke	mm (in)	67.0 x 68.0 (2.64 x 2.68)		
Displacement	L (cu.in)	0.479 (29.23)		
Aspiration		Naturally Aspirated		
Aftertreatment		None		
Rated power <sup>*1</sup>	kW (HP) / rpm	9.9 (13.3) / 3600		
Maximum torque <sup>*1</sup>	Nm (lbf-ft) / rpm	29.7 (21.9) / 2600		
No load maximum speed <sup>*1</sup>	rpm	3820		
No load minimum idling speed <sup>*1</sup>	rpm	950		1300
Maximum air intake restriction with new air cleaner element	kPa (mmAq)	2.45 (250)		
Maximum air intake restriction with dirty air cleaner element	kPa (mmAq)	4.90 (500)		3.92 (400)
Maximum exhaust pressure	kPa (mmHg)	9.3 (70)		
Injection timing (High pressure overflow method)	degree	TDC -21	TDC -22	TDC -20
Fuel injection pressure	MPa (psi)	13.7 (1990)		

\*1: Gross intermittent SAE J1995

\*Specifications are subjected to change without prior notice.

	Unit	Z482-E2	Z482-E3	Z482-E4
Combustion chamber type		Spherical type (E-TVCS: Three Vortex Combustion System)		
Fuel injection pump type		In-line pump		
Governor type		Centrifugal ball mechanical type governor		
Injector		Throttle type		
Direction of rotation		Counter clockwise viewed from flywheel side		
Firing order		1 - 2		
Compression ratio		23.5		
Lubricating system		Forced lubrication by trochoid pump		
Cooling system		Pressurized radiator, forced circulation with water pump		
Exhaust Gas Recirculation (EGR)		None		
Starting aid device		Glow plug		
Starter motor	V - kW	12 - 0.95		
Charging alternator	V - W	12 - 168		
Lubricating oil capacity	L (U.S. gal)	2.5 (0.66)		
Recommended coolant capacity	L (U.S. gal)	2.8 (0.74)		
Length x Width x Height* <sup>1</sup>	mm (in)	338 x 386 x 564 (13.3 x 15.2 x 22.2)		
Dry weight* <sup>1</sup>	kg (lb)	53 (117)		

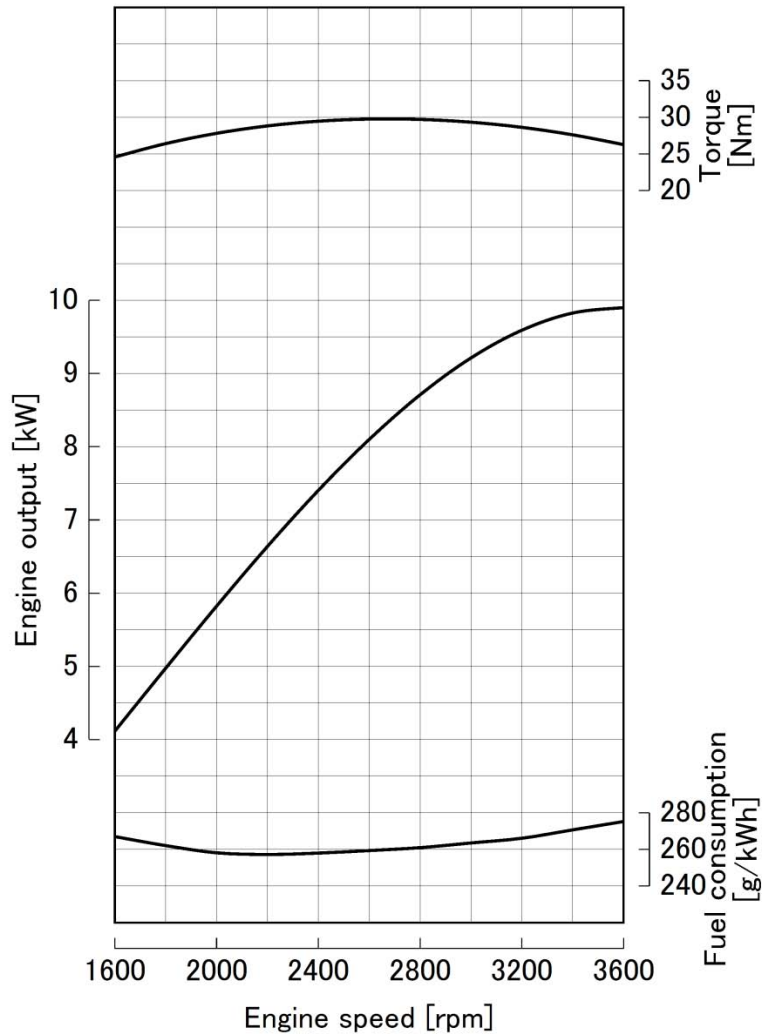
\*1: Excluded cooling fan

\*Specifications are subjected to change without prior notice.

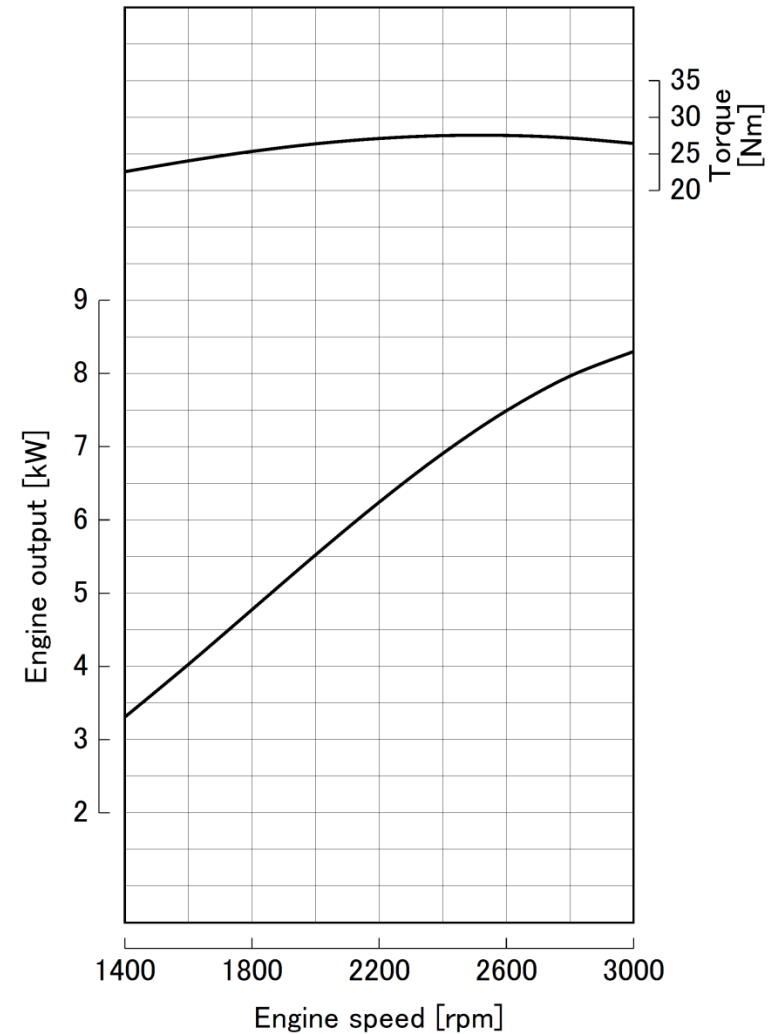
## Z482-E2

# Performance Curves (1/3)

Rated power 9.9 kW / 3600 rpm  
Gross intermittent SAE J1995



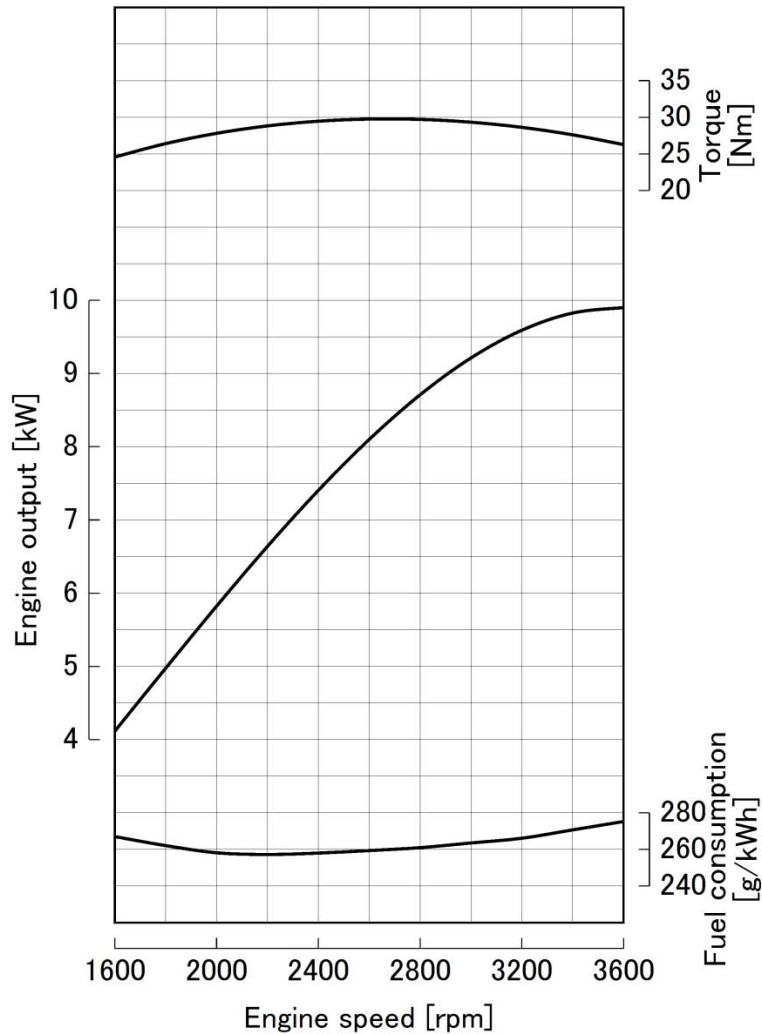
Rated power 8.3 kW / 3000 rpm  
Gross intermittent SAE J1995



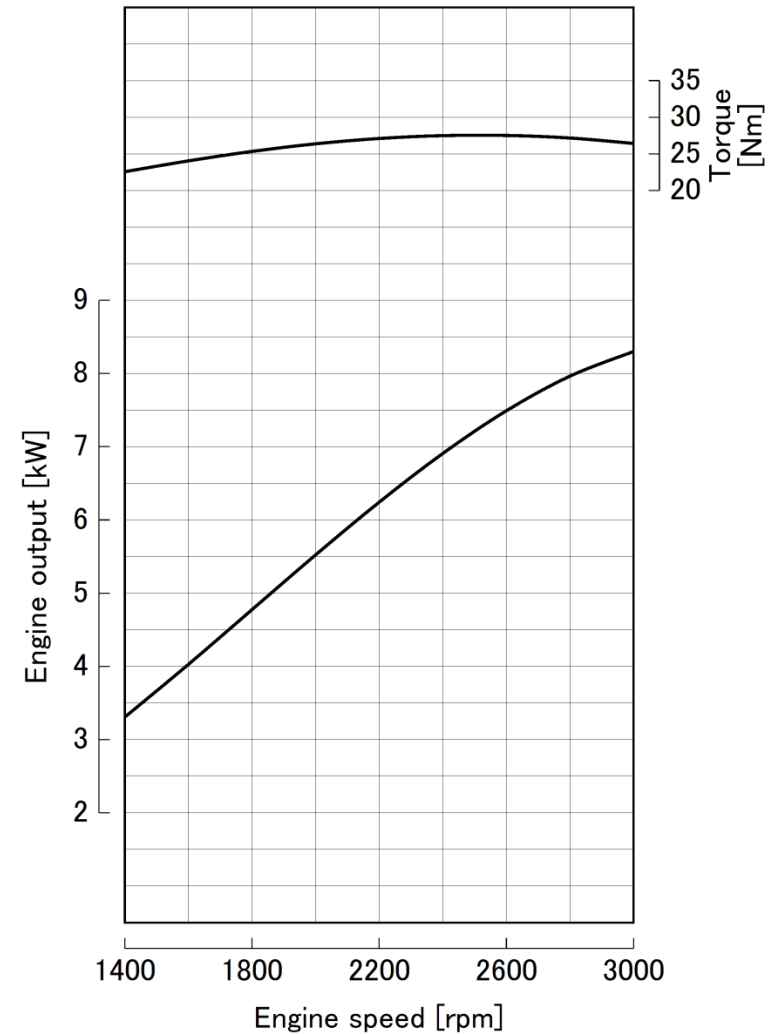
## Z482-E3

# Performance Curves (2/3)

Rated power 9.9 kW / 3600 rpm  
Gross intermittent SAE J1995



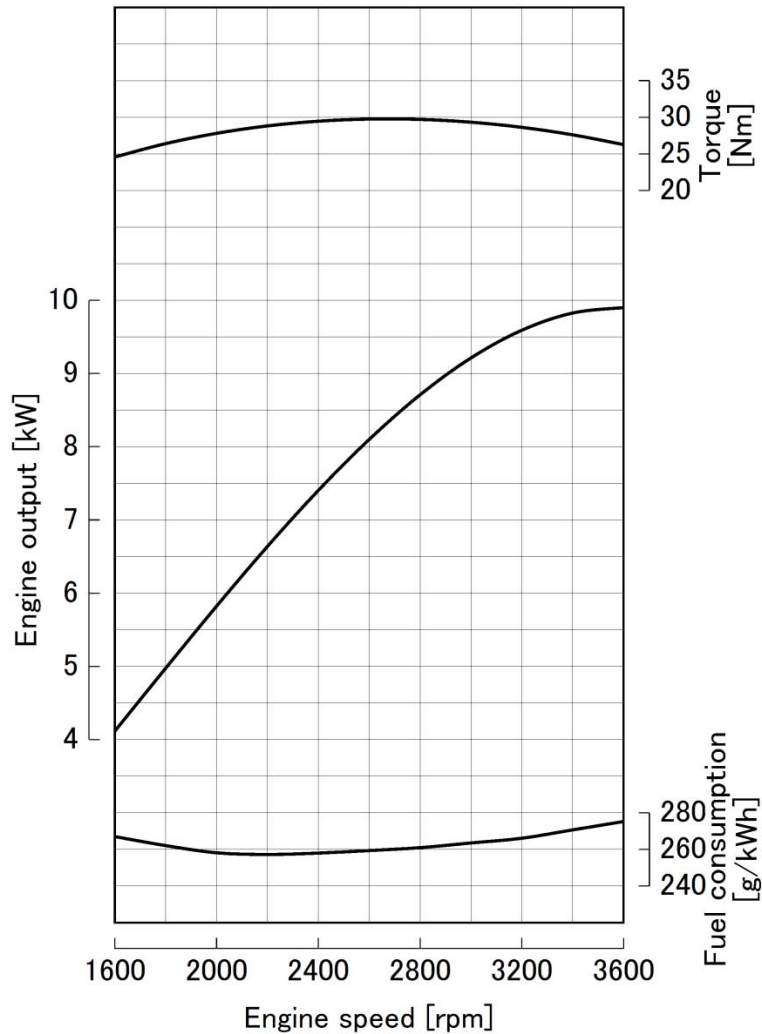
Rated power 8.3 kW / 3000 rpm  
Gross intermittent SAE J1995



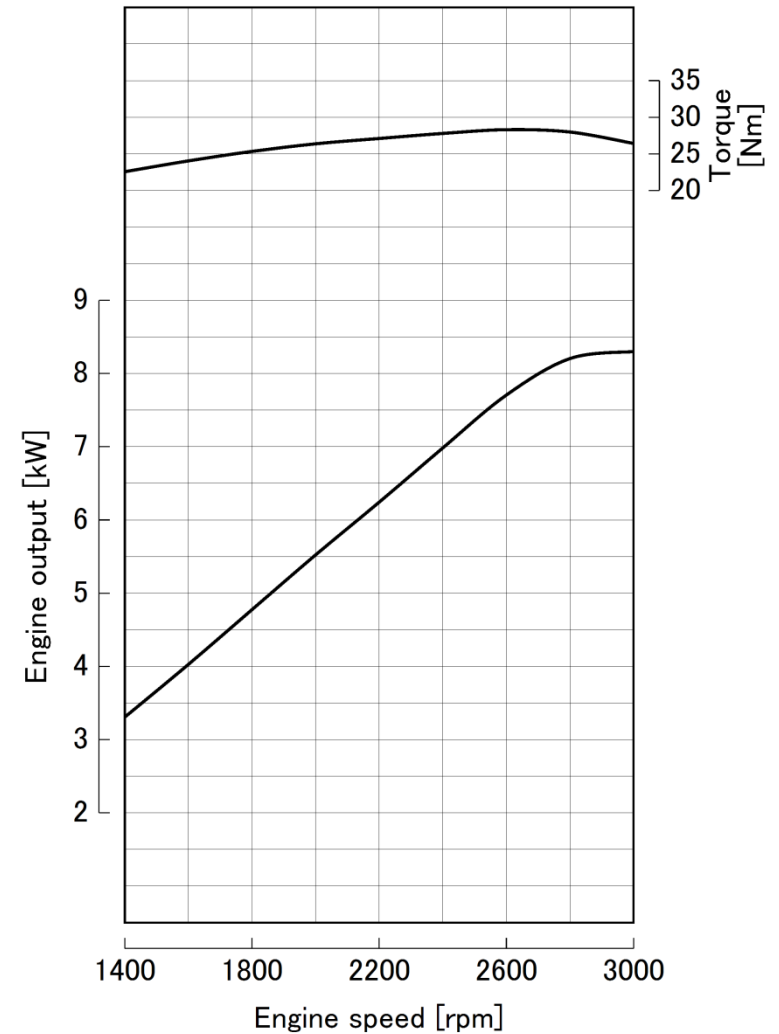
## Z482-E4

# Performance Curves (3/3)

Rated power 9.9 kW / 3600 rpm  
Gross intermittent SAE J1995



Rated power 8.3 kW / 3000 rpm  
Gross intermittent SAE J1995





Rated power at each engine speed.

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Gross intermittent <sup>*1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Net intermittent <sup>*2</sup>	kW	5.8	6.3	6.9	7.9	7.9	9.3
			HP	7.8	8.4	9.3	10.6	10.6	12.5
		Net continuous <sup>*2</sup>	kW	5.0	5.5	6.0	6.9	6.9	8.1
			HP	6.8	7.3	8.0	9.2	9.2	10.8
	E3	Gross intermittent <sup>*1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Net intermittent <sup>*2</sup>	kW	5.8	6.3	6.9	7.9	7.9	9.3
			HP	7.8	8.4	9.3	10.6	10.6	12.5
		Net continuous <sup>*2</sup>	kW	5.0	5.5	6.0	6.9	6.9	8.1
			HP	6.8	7.3	8.0	9.2	9.2	10.8
	E4	Gross intermittent <sup>*1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Net intermittent <sup>*2</sup>	kW	5.8	6.3	6.9	7.9	7.9	9.3
			HP	7.8	8.4	9.3	10.6	10.6	12.5
		Net continuous <sup>*2</sup>	kW	5.0	5.5	6.0	6.9	6.9	8.1
			HP	6.8	7.3	8.0	9.2	9.2	10.8
		No load minimum idling speed <sup>*1</sup>	rpm	1850	1450	1800	950	1200	1300

\*1: SAE J1995, \*2: SAE J1349

## Maximum Torque

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Engine speed at maximum torque	rpm	1900	1900	2200	2500	2300	2600
		Maximum torque*1	Nm	26.0	26.1	27.3	27.5	28.7	29.7
			Lb-ft	19.2	19.3	20.1	20.3	21.2	21.9
	E3	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Engine speed at maximum torque	rpm	1900	1900	2200	2500	2300	2600
		Maximum torque*1	Nm	26.0	26.1	27.3	27.5	28.7	29.7
			Lb-ft	19.2	19.3	20.1	20.3	21.2	21.9
	E4	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Engine speed at maximum torque	rpm	1900	1900	2200	2600	2300	2600
		Maximum torque*1	Nm	26.0	26.1	27.3	28.4	28.7	29.7
			Lb-ft	19.2	19.3	20.1	20.9	21.2	21.9

\*1: Gross intermittent SAE J1995

## Fuel Consumption (at rated power)

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
			lb/HPh	0.419	0.422	0.427	0.437	0.450	0.459
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
			gal/h	0.48	0.53	0.59	0.69	0.72	0.87
	E3	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
			lb/HPh	0.419	0.422	0.427	0.437	0.450	0.459
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
			gal/h	0.48	0.53	0.59	0.69	0.72	0.87
	E4	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
			HP	8.0	8.9	9.7	11.1	11.1	13.3
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
			lb/HPh	0.419	0.422	0.427	0.437	0.450	0.459
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
			gal/h	0.48	0.53	0.59	0.69	0.72	0.87

\*1: Gross intermittent SAE J1995

Note 1: at amb. temp. 25 degC and 100 kPa

Note 2: Density of diesel fuel 0.84 g/cm<sup>3</sup>

## Fuel Consumption (at maximum torque)

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Engine speed at maximum torque	rpm	1900	1900	2200	2500	2300	2600
		Maximum torque* <sup>1</sup>	Nm	26.0	26.1	27.3	27.5	28.7	29.7
		Specific fuel consumption	g/kWh	250	251	252	257	257	263
			lb/HPh	0.411	0.413	0.414	0.422	0.422	0.432
		Fuel consumption	L/h	1.54	1.55	1.89	2.21	2.11	2.53
			gal/h	0.41	0.41	0.50	0.58	0.56	0.67
	E3	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Engine speed at maximum torque	rpm	1900	1900	2200	2500	2300	2600
		Maximum torque* <sup>1</sup>	Nm	26.0	26.1	27.3	27.5	28.7	29.7
		Specific fuel consumption	g/kWh	250	251	252	257	257	263
			lb/HPh	0.411	0.413	0.414	0.422	0.422	0.432
		Fuel consumption	L/h	1.54	1.55	1.89	2.21	2.11	2.53
			gal/h	0.41	0.41	0.50	0.58	0.56	0.67
	E4	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Engine speed at maximum torque	rpm	1900	1900	2200	2500	2300	2600
		Maximum torque* <sup>1</sup>	Nm	26.0	26.1	27.3	27.5	28.7	29.7
		Specific fuel consumption	g/kWh	250	251	252	258	257	263
			lb/HPh	0.411	0.413	0.414	0.424	0.422	0.432
		Fuel consumption	L/h	1.54	1.55	1.89	2.37	2.11	2.53
			gal/h	0.41	0.41	0.50	0.63	0.56	0.67

\*1: Gross intermittent SAE J1995

Note 1: at amb. temp. 25 degC and 100 kPa

Note 2: Density of diesel fuel 0.84 g/cm<sup>3</sup>

Model			Engine speed (rpm)		
			No load minimum speed	No load maximum speed	Full load rated speed
Z482	E2	dB (A) / rpm	70.5 / 950	88.5 / 3820	90.5 / 3600
	E3	dB (A) / rpm	70.5 / 950	88.5 / 3820	90.5 / 3600
	E4	dB (A) / rpm	74.5 / 1300	89.5 / 3820	90.5 / 3600

The data show the average noise level at four points.

Note:

- Measurement conditions: with radiator, cooling fan, air cleaner and muffler.
- Cooling fan, fan drive pulley, and fan pulley specifications are shown in below table.

Model	Fan diameter (mm)	Number of blade	Shape	Fan drive pulley diameter (mm)	Fan pulley diameter (mm)
Z482	240	4	straight	100	82

Model			Engine speed (rpm)					
			2200	2400	2600	3000	3200	3600
Z482	E2	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		ft <sup>3</sup> /min	16	18	19	22	23	26
	E3	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		ft <sup>3</sup> /min	16	18	19	22	23	26
	E4	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		ft <sup>3</sup> /min	16	18	19	22	23	26

Note 1:  
at amb. temp. 25 degC, and 100 kPa

Note 2:  
Combustion air requirements calculating formula

$$Q_1 = V_h \times N \times C \times \eta \times k \times 10^{-3}$$

Q<sub>1</sub>: Amount of intake air (m<sup>3</sup>/min)

V<sub>h</sub> : Total displacement (L)

N : Engine speed (rpm)

C : Coefficient = 0.5

η : Intake efficiency (3000 rpm or less: 0.87, 3600 rpm or less: 0.85)

k : Coefficient : 1.0

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Combustion air requirements	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
		Exhaust gas volume	m <sup>3</sup> /min	1.13	1.23	1.34	1.55	1.61	1.93
			ft <sup>3</sup> /min	39.9	43.4	47.3	54.7	56.9	68.2
	E3	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Combustion air requirements	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
		Exhaust gas volume	m <sup>3</sup> /min	1.13	1.23	1.34	1.55	1.61	1.93
			ft <sup>3</sup> /min	39.9	43.4	47.3	54.7	56.9	68.2
	E4	Rated power*1	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Combustion air requirements	m <sup>3</sup> /min	0.46	0.50	0.54	0.63	0.65	0.73
		Fuel consumption	L/h	1.82	2.02	2.23	2.63	2.71	3.28
		Exhaust gas volume	m <sup>3</sup> /min	1.13	1.23	1.34	1.55	1.61	1.93
			ft <sup>3</sup> /min	39.9	43.4	47.3	54.7	56.9	68.2

\*1: Gross intermittent SAE J1995

Note 1: at amb. temp. 25 degC and 100 kPa

Note 2: Exhaust gas volume calculating formula

$$GL = (AL + 7.1 \times Be \times d / 600) \times (273 + t) / (273 + t_0) \times P_0 / (P_0 + P_s)$$

GL: Exhaust gas volume (m<sup>3</sup>/min),

d: 0.84 (g/cm<sup>3</sup>),

P<sub>s</sub>: Exhaust gas back pressure (kPa),

AL: Combustion air requirements (m<sup>3</sup>/min),

t: Exhaust gas temperature (degC),

P<sub>0</sub>: 100 (kPa)

Be: Fuel consumption (L/h),

t<sub>0</sub>: 25.0 (degC),

Model				Engine speed (rpm)					
				2200	2400	2600	3000	3200	3600
Z482	E2	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
		Heat rejection to coolant	kW	6.2	6.7	7.4	8.8	8.9	11.1
			kJ/h	22300	24200	26500	31600	32100	40000
			kcal/h	5330	5790	6340	7540	7680	9550
	E3	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
		Heat rejection to coolant	kW	6.2	6.7	7.4	8.8	8.9	11.1
			kJ/h	22300	24200	26500	31600	32100	40000
			kcal/h	5330	5790	6340	7540	7680	9550
	E4	Rated power* <sup>1</sup>	kW	6.0	6.6	7.2	8.3	8.3	9.9
		Specific fuel consumption	g/kWh	255	257	260	266	274	279
		Heat rejection to coolant	kW	6.2	6.7	7.4	8.8	8.9	11.1
			kJ/h	22300	24200	26500	31600	32100	40000
			kcal/h	5330	5790	6340	7540	7680	9550

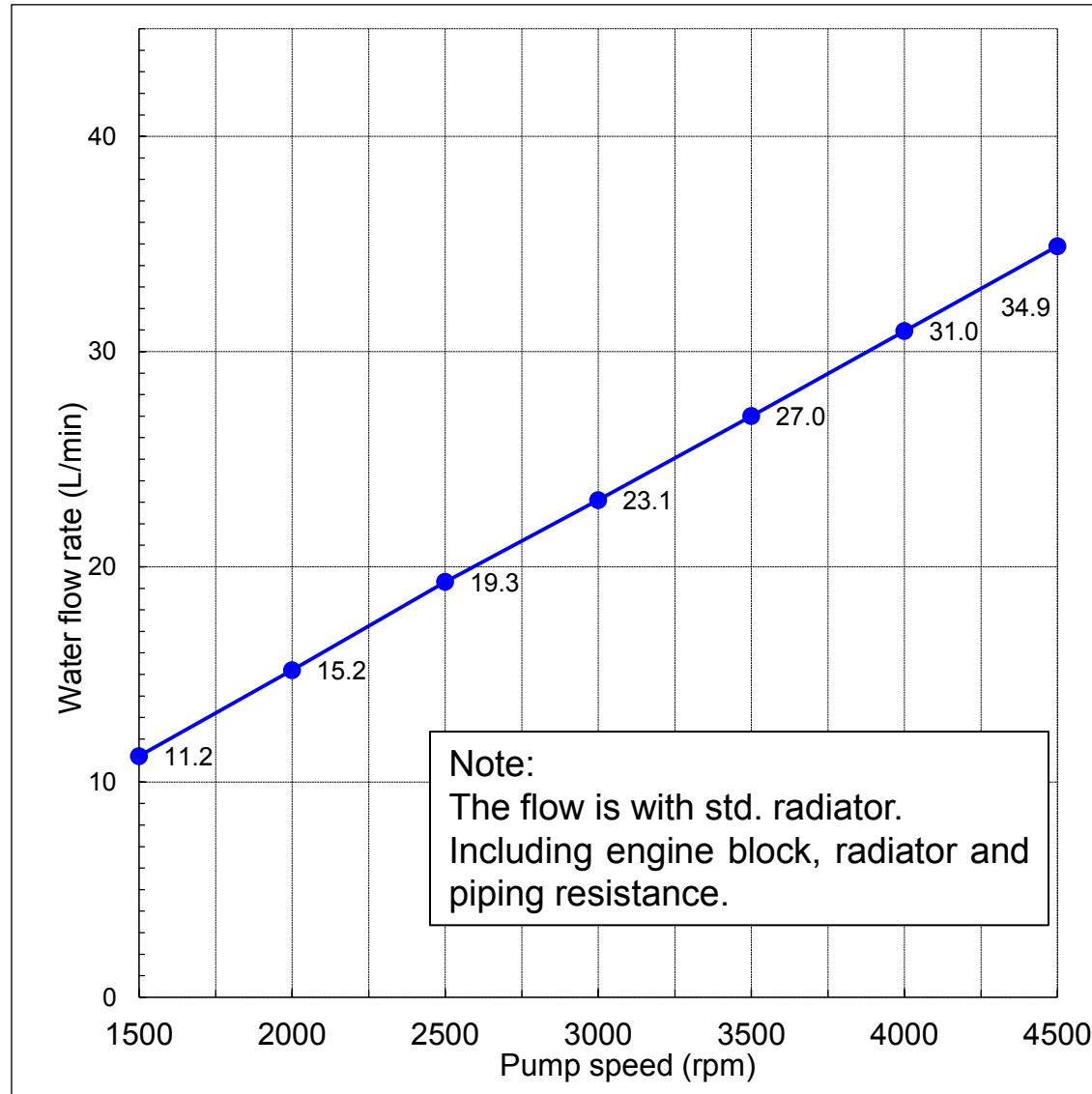
\*1: Gross intermittent SAE J1995

Note 1: at amb. temp. 25 degC and 100 kPa

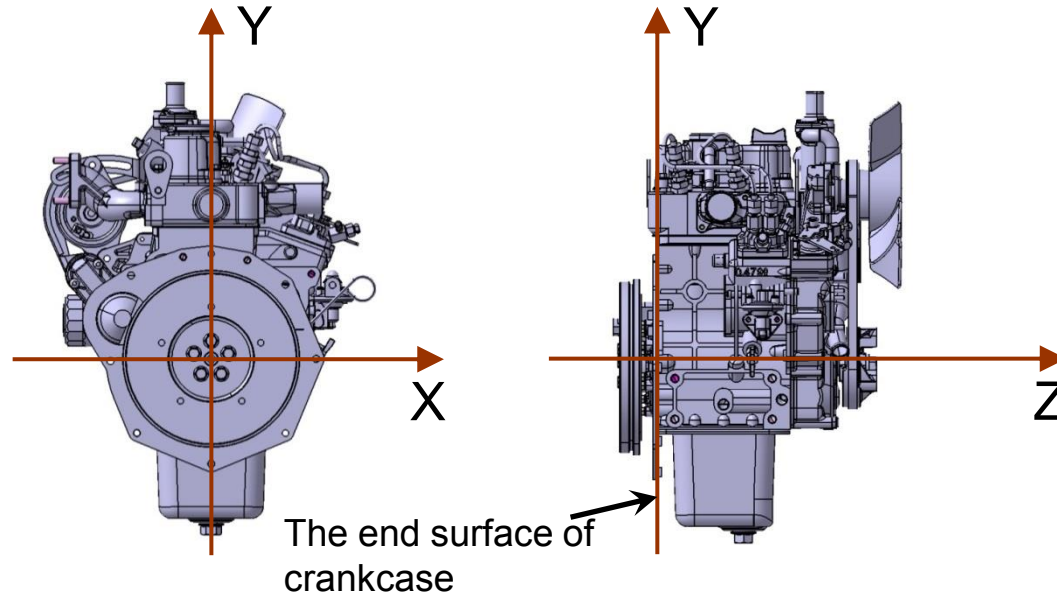
Note 2: Diesel fuel low calorific value: 43074 kJ/kg (10290 kcal/kg)



Water pump	1E051-7303*
Thermostat	19203-7301*



# Center of Gravity



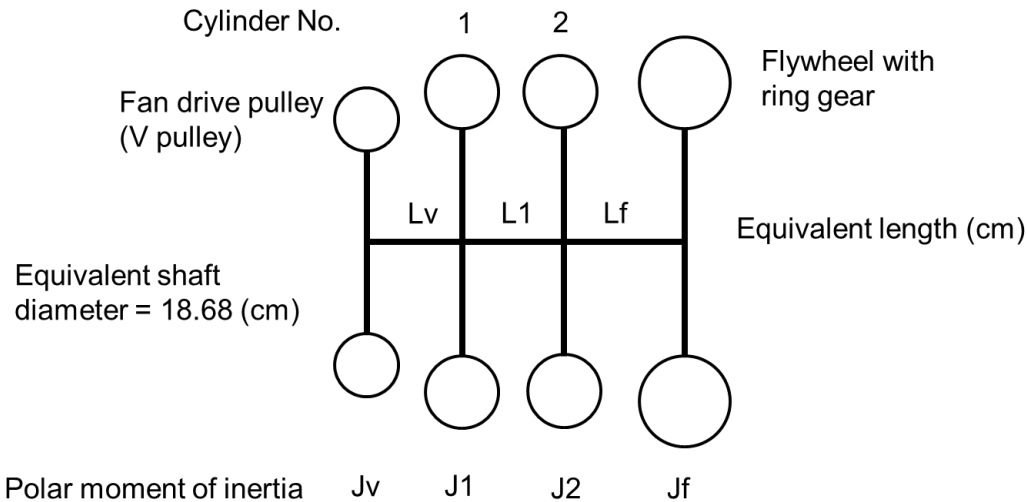
## 1. With Kubota standard flywheel and rear end plate

Dry weight		Center of gravity					
kg	lb	X		Y		Z	
		mm	in	mm	in	mm	in
53	117	3.0	0.12	62.0	2.44	89.0	3.50

## 2. With SAE No.6-1/2 flywheel and SAE No.5 flywheel housing

Dry weight		Center of gravity					
kg	lb	X		Y		Z	
		mm	in	mm	in	mm	in
78	172	3.5	0.14	42.0	1.65	39.5	1.56

# Mass Elastic Systems



## 1. With Kubota standard flywheel

Comp. Flywheel	16851-2502*
Fan drive pulley	16851-7428*

Equivalent length (cm)			Polar moment of inertia (kgcm <sup>2</sup> )			
Lv	L1	Lf	Jv	J1	J2	Jf
30670	5136	3673	11.8	12.7	13.7	384

## 2. With SAE No.6-1/2 flywheel

Comp. Flywheel	16675-2501*
Fan drive pulley	16851-7428*

Equivalent length (cm)			Polar moment of inertia (kgcm <sup>2</sup> )			
Lv	L1	Lf	Jv	J1	J2	Jf
30670	5136	3673	11.8	12.7	13.7	1447

# Z482

# Unbalanced Forces

## 1. Base data

l (m)	r (m)	L (m)	mp (kg)	Bore (mm)	Stroke (mm)
0.0980	0.0340	0.0720	0.421	67.0	68.0

l = Center distance of connecting rod

r = Crank radius

L = Cylinder distance

mp = Reciprocating mass

G = Gravitational acceleration (=9.80665 (m/s<sup>2</sup>))

## 2. Unbalanced inertia force and couple

Model	Cylinders	Bore (mm)	Order	Fz (N)	Npy (Nm)	Noz (Nm)
Z482	2	67.0	1	0	$0.000520 \times \omega^2$	$0.000520 \times \omega^2$
			2	$0.00993 \times \omega^2$	0	0

Fz = Unbalanced inertia force =  $2mp \times r \times \omega^2 \times (r/l) \times \cos 2\theta$  (N)

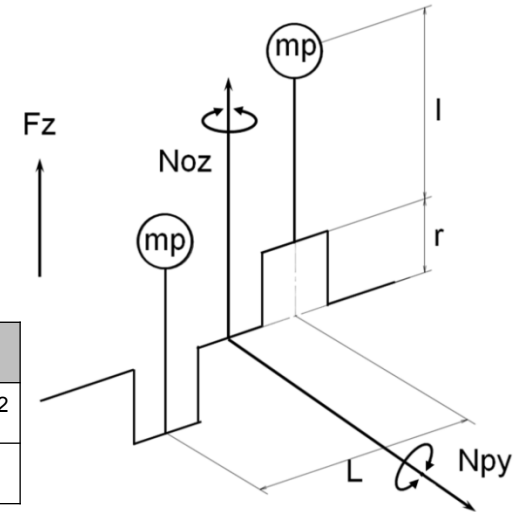
Npy = Unbalanced inertia couple =  $1/2 \times mp \times r \times L \times \omega^2 \times \sin \theta$  (Nm)

Noz = Unbalanced inertia couple =  $1/2 \times mp \times r \times L \times \omega^2 \times \sin \theta$  (Nm)

$\omega$  = Angular velocity =  $2\pi n/60$  (rad/s), n = Engine speed (rpm)

## 3. An example of calculation

Calculation condition	$\omega^2$	Fz, Npy, Noz		
			Order	Calculation
Engine model: Z482 Engine speed: 3600 rpm	$(2 \times \pi \times 3600/60)^2$ = 142122	Fz (N)	1	0
			2	1412
		Npy (Nm)	1	73.9
			2	0
		Noz (Nm)	1	73.9
			2	0



# Engine for Generator Specifications (1/6)

## Z482 (1500 / 1800 rpm)

	Unit	Z482		Z482-E4
Cylinders		2		
Type		Vertical, water cooled 4-cycle IDI diesel engine		
Bore and Stroke	mm (in)	67.0 x 68.0 (2.64 x 2.68)		
Displacement	L (cu.in)	0.479 (29.23)		
Aspiration		Naturally Aspirated		
Aftertreatment		None		
Net stand-by power <sup>*1</sup>	kW (HP) / rpm	3.6 (4.8) / 1500	4.4 (5.9) / 1800	4.2 (5.6) / 1800
Net continuous power <sup>*1</sup>	kW (HP) / rpm	3.4 (4.6) / 1500	4.1 (5.5) / 1800	3.8 (5.1) / 1800
Fuel consumption at stand-by power	g/kWh (lb/HPh)	270 (0.444)	262 (0.431)	278 (0.457)
No load maximum speed <sup>*1</sup>	rpm	2000 <sup>*2</sup>	2190 <sup>*2</sup>	2190 <sup>*2</sup>
Maximum air intake restriction with new air cleaner element	kPa (mmAq)	1.96 (200)		
Maximum air intake restriction with new dirty cleaner element	kPa (mmAq)	4.90 (500)		
Maximum exhaust pressure	kPa (mmHg)	7.1 (53)		
Injection timing (High pressure overflow method)	degree	TDC -18.0		TDC -16.25
Fuel injection pressure	MPa (psi)	13.7 (1990)		

\*1: SAE J1349, \*2: Engine speed is controlled isochronously by electronic control governor.

\*Specifications are subjected to change without prior notice.

# Engine for Generator Specifications (2/6)

## Z482 (1500 / 1800 rpm)

	Unit	Z482	Z482-E4
Combustion chamber type		Spherical type (E-TVCS: Three Vortex Combustion System)	
Fuel injection pump type		In-line pump	
Governor type		Mechanical governor + Electronic governor	
Injector		Throttle type	
Direction of rotation		Counter clockwise viewed from flywheel side	
Firing order		1 - 2	
Compression ratio		22.0	
Lubricating system		Forced lubrication by trochoid pump	
Cooling system		Pressurized radiator, forced circulation with water pump	
Exhaust Gas Recirculation (EGR)		None	
Starting aid device		Glow plug	
Starter motor	V - kW	12 - 0.95	
Charging alternator	V - W	12 - 360	
Lubricating oil capacity	L (U.S. gal)	3.8 (1.0)	
Length x Width x Height* <sup>1</sup>	mm (in)	428 x 433 x 564 (16.9 x 17.0 x 22.2)	
Dry weight* <sup>1</sup>	kg (lb)	81 (179)	

\*1: Excluded cooling fan, with SAE No.6-1/2 flywheel and SAE No.5 flywheel housing

\*Specifications are subjected to change without prior notice.

# Engine for Generator Specifications (3/6)

## Z482 (1500 / 1800 rpm)

### Heat rejection to coolant at stand-by power

	Unit	Z482		Z482-E4
Net stand-by power	kW (HP) / rpm	3.6 (4.8) / 1500	4.4 (5.9) / 1800	4.2 (5.6) / 1800
Heat rejection to coolant at stand-by power	kW (kcal/h)	4.5 (3900)	5.5 (4700)	5.6 (4800)

Note 1: at amb. temp. 25 degC and 100 kPa

Note 2: Diesel fuel low caloric value: 43074 kJ/kg (10290 kcal/kg)

### Noise level

Noise level	No load	Continuous power	Stand-by power
Sound pressure at 1 m (dB (A)) (1500 rpm)	78.0	79.8	80.0
Sound pressure at 1 m (dB (A)) (1800 rpm)	80.0	81.8	82.0

Note: - Measurement conditions: with radiator, cooling fan, air cleaner and muffler.

- Cooling fan, fan drive pulley, and fan pulley specifications are shown in below table.

Model	Fan diameter (mm)	Number of blade	Shape	Fan drive pulley diameter (mm)	Fan pulley diameter (mm)
Z482 (1500 rpm, 1800 rpm)	260	5	Curved	100	82

\*Specifications are subjected to change without prior notice.

# Engine for Generator Specifications (4/6)

## Z482 (3000 / 3600 rpm)

	Unit	Z482-E2		Z482-E3		Z482-E4
Cylinders		2				
Type		Vertical, water cooled 4-cycle IDI diesel engine				
Bore and Stroke	mm (in)	67.0 x 68.0 (2.64 x 2.68)				
Displacement	L (cu.in)	0.479 (29.23)				
Aspiration		Naturally Aspirated				
Aftertreatment		None				
Net stand-by power* <sup>1</sup>	kW (HP) / rpm	7.5 (10.1) / 3000	8.9 (11.9) / 3600	7.5 (10.1) / 3000	8.9 (11.9) / 3600	8.9 (11.9) / 3600
Net continuous power* <sup>1</sup>	kW (HP) / rpm	6.9 (9.2) / 3000	8.1 (10.9) / 3600	6.9 (9.2) / 3000	8.1 (10.9) / 3600	8.1 (10.9) / 3600
Fuel consumption at stand-by power	g/kWh (lb/HPh)	265 (0.436)	285 (0.469)	265 (0.436)	285 (0.469)	285 (0.469)
No load maximum speed* <sup>1</sup>	rpm	3270	3850	3270	3850	3850
Maximum air intake restriction with new air cleaner element	kPa (mmAq)	2.45 (250)				
Maximum air intake restriction with dirty air cleaner element	kPa (mmAq)	4.90 (500)				
Maximum exhaust pressure	kPa (mmHg)	9.3 (70)				
Injection timing (High pressure overflow method)	degree	TDC -19.0	TDC -21.0	TDC -20.0	TDC -22.0	TDC -22.0
Fuel injection pressure	MPa (psi)	13.7 (1990)				

\*1: SAE J1349

\*Specifications are subjected to change without prior notice.



# Engine for Generator Specifications (5/6)

## Z482 (3000 / 3600 rpm)

	Unit	Z482	Z482-E4
Combustion chamber type		Spherical type (E-TVCS: Three Vortex Combustion System)	
Fuel injection pump type		In-line pump	
Governor type		All speed mechanical governor	
Injector		Throttle type	
Direction of rotation		Counter clockwise viewed from flywheel side	
Firing order		1 - 2	
Compression ratio		23.5	
Lubricating system		Forced lubrication by trochoid pump	
Cooling system		Pressurized radiator, forced circulation with water pump	
Exhaust Gas Recirculation (EGR)		None	
Starting aid device		Glow plug	
Starter motor	V - kW	12 - 0.95	
Charging alternator	V - W	12 - 168	
Lubricating oil capacity	L (U.S. gal)	2.5 (0.66)	
Length x Width x Height* <sup>1</sup>	mm (in)	413 x 386 x 564 (16.3 x 15.2 x 22.2)	
Dry weight* <sup>1</sup>	kg (lb)	78 (172)	

\*1: Excluded cooling fan, with SAE No.6-1/2 flywheel and SAE No.5 flywheel housing

\*Specifications are subjected to change without prior notice.

# Engine for Generator Specifications (6/6)

## Z482 (3000 / 3600 rpm)

### Heat rejection to coolant at stand-by power

	Unit	Z482-E2		Z482-E3		Z482-E4
Net stand-by power	kW (HP) / rpm	7.5 (10.1) / 3000	8.9 (11.9) / 3600	7.5 (10.1) / 3000	8.9 (11.9) / 3600	8.9 (11.9) / 3600
Heat rejection to coolant at stand-by power	kW (kcal/h)	8.3 (7100)	10.6 (9140)	8.3 (7100)	10.6 (9140)	10.6 (9140)

Note 1: at amb. temp. 25 degC and 100 kPa

Note 2: Diesel fuel low caloric value: 43074 kJ/kg (10290 kcal/kg)

### Noise level

Noise level	No load	Continuous power	Stand-by power
Sound pressure at 1 m (dB (A)) (3000 rpm)	85.5	88.3	88.5
Sound pressure at 1 m (dB (A)) (3600 rpm)	86.5	89.3	89.5

Note: - Measurement conditions: with radiator, cooling fan, air cleaner and muffler.

- Cooling fan, fan drive pulley, and fan pulley specifications are shown in below table.

Model	Fan diameter (mm)	Number of blade	Shape	Fan drive pulley diameter (mm)	Fan pulley diameter (mm)
Z482 (3000 rpm, 3600 rpm)	245	5	Straight	100	82

\*Specifications are subjected to change without prior notice.

# Revision History

File Name	Remarks	Date
KORD3_16-120_Technical_information_for_Z482.pdf	New release	Sep 7, 2016
KORD3_16-198_Technical_information_for_Z482.pdf	- Page 21 to 23 Add Z482 for generator specifications.	Dec 14, 2016
KORD3_17-035_Technical_information_for_Z482.pdf	- Page 9 Add no load minimum idling speed for E4 model.	Mar 6, 2017
KORD3_17-071_Technical_information_for_Z482.pdf	- Page 21 to 23 Addition of Z482-E4 (1800rpm) specifications	Aug 10, 2017
KORD3_17-106_Technical_information_for_Z482.pdf	- Page 4, 21 and 24 Add maximum air intake restriction with dirty air cleaner element	Nov 22, 2017