



Two-Stage Turbocharged

KG-18-T

GREEN Gas Engine



The World's Highest Level of
Electrical Efficiency **51%**

Two-Stage Turbocharged

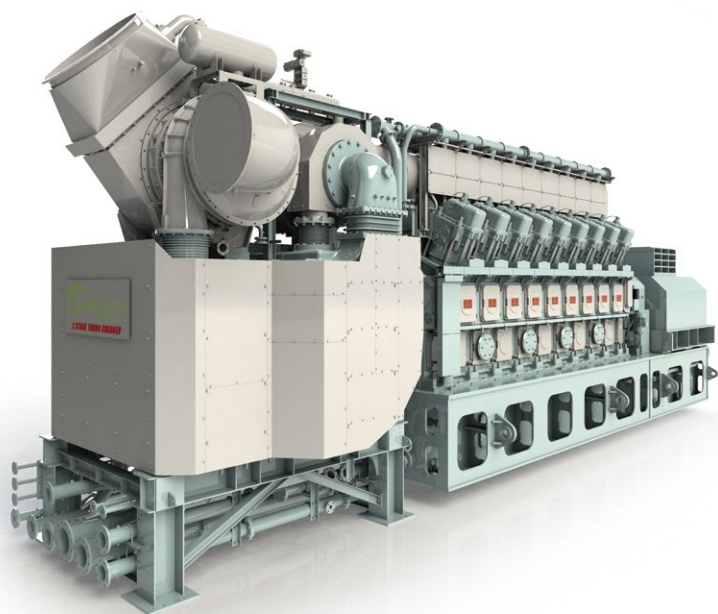
KG-18-T

GREEN Gas Engine



Get Reliable Eco-friendly Energy Now

Kawasaki is introducing a two-stage turbocharged gas engine on its gas engine line up, named KG-18-T. Based on Kawasaki's well proven design technology, this engine is said to be the most efficient 7 to 8 MW class gas engine with high reliability and availability. The KG-18-T is sure to provide with good solution upon requirement for power/energy supply.



Specification of "KG-18-T"

- Based on the well-proven engine KG-18 with its accumulated quality & reliability.
- The world's highest level of electrical efficiency : 51%
- Kawasaki free-governor mode for quick response to grid fluctuation.

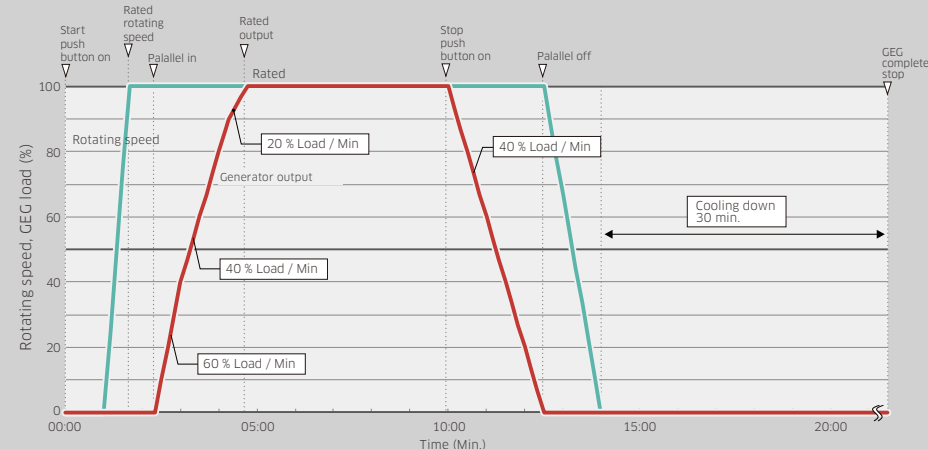
Model		KG-18-T		
Cylinder bore × stroke (mm)		300 × 480	Electrical efficiency (%)	51
Output (kW)	50 Hz / 750 rpm	7,800	NO _x (ppm) [O ₂ = 0 %]	250 or less (at O ₂ = 0 %)
	60 Hz / 720 rpm	7,500	Operating range	30~100 % load
LHV gross heat rate (kJ//kWh)		7,129	Turbocharger type	Two-stage
LHV gross heat rate (Btu//kWh)		6,757	Turbocharger control system	By-pass valve type
Remarks		1. Standard gas in Japan (40.6 MJ / Nm ³ , Methane Number = 69) basis data. 2. ISO condition, PF=1.0 and lube oil is SHC pegasus SAE 30. 3. 5% tolerance for heat rate. 4. Site performance and emission data for each project shall be calculated based on the project specification. Please contact to the nearest Kawasaki.		

Fast start up mode

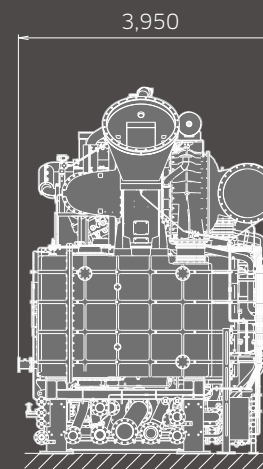
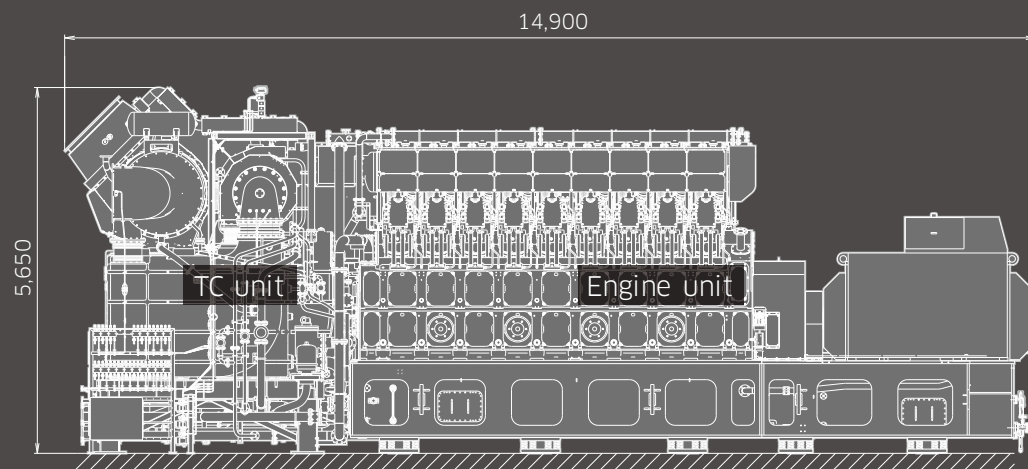
Fast start-up

- In 5 minutes to 100% full load from start command.
- In 4 minutes to engine stop from engine stop command.

KG-18-T start and stop curves (Same as hot, warm and cold start)



Basic engine data of "KG-18-T"



KG-18-T (Engine unit)

Dimension (L×W×H) ——— 10.4 m × 3.2 m × 5.4 m

Weight (Dry) ——— 118 ton

KG-18-T (Turbocharger unit)

Dimension (L×W×H) ——— 4.5 m × 3.9 m × 5.6 m

Weight (Dry) ——— 32 ton

Operating two-stage turbocharged gas engine

- KG-18-T is operated quite smoothly from November 2018.
World highest class electrical efficiency has proved by the plant.

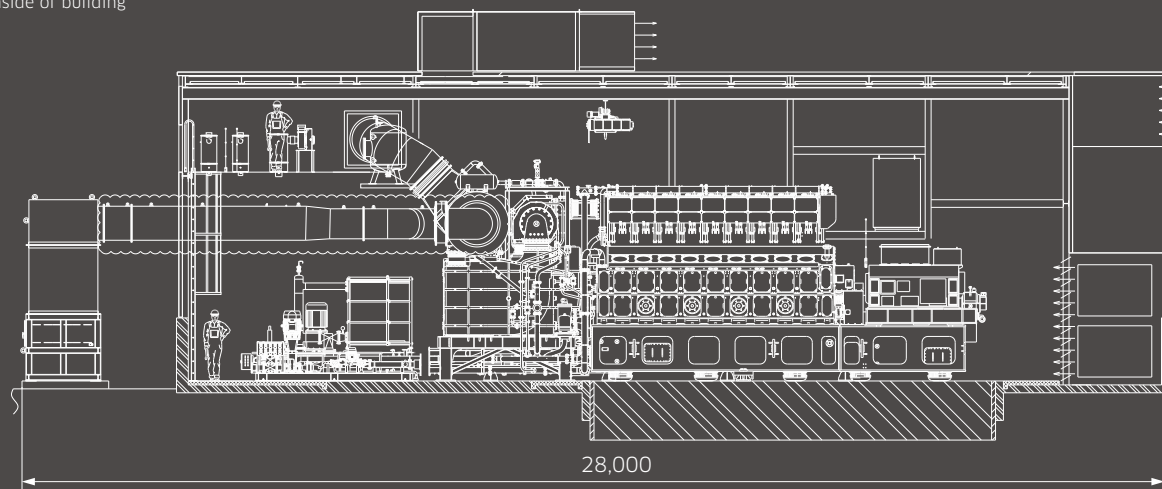
Outline of power plant



KHI Kobe power plant #4

Engine output ——— 7,500 kW
Engine speed ——— 720 rpm
Frequency ——— 60 Hz
Operation mode ——— Daily start and stop

Inside of building



GREEN Gas Engine series

Model		KG-12	KG-18	KG-18-V	KG-18-T
Cylinder bore × stroke (mm)		300 × 480			
Output (kW)	50 Hz / 750 rpm	5,200	7,800	7,800	7,800
	60 Hz / 720 rpm	5,000	7,500	7,500	7,500
LHV gross heat rate (kJ//kWh)		7,347		7,273	7,129
LHV gross heat rate (Btu//kWh)		6,965		6,893	6,757
Electrical efficiency (%)		49		49.5	51
NO _x (ppm) [O ₂ = 0 %]		200 or less (at O ₂ = 0 %) 【 57 or less (at O ₂ = 15 %) equivalent 】			250 or less (at O ₂ = 0 %)
Operating range		30~100 % load			
Turbocharger type		Single stage			Two stage
Turbocharger control system		By-pass valve type		Variable nozzle type	By-pass valve type
Remarks		1. Standard gas in Japan (40.6 MJ / Nm ³ , Methane Number = 69) basis data. 2. ISO condition, PF=1.0 and lube oil is SHC pegasus SAE 30. 3. 5% tolerance for heat rate. 4. Site performance and emission data for each project shall be calculated based on the project specification. Please contact to the nearest Kawasaki.			

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Mar. 2020, a, Printed in JAPAN