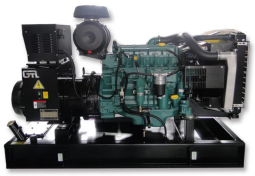
POWER SYSTEM

VW-113T6 powered by: TAD551GE



DESIGN SPECIFICATIONS

√High quality,reliable,long life and complete power unit.
√ compact design.

√Easy start and maintenance possibility.
√Every generating set is subject to a comprehensive test programme which includes full load testing and checking and proving of all control and safety shut down functions testing.

√Fully engineered with a wide range of options and accessories:Electrical,mechanical,soundproof canopy and mobile units

Diesel Genset Features — P.F=0.8 3Phase

Generating Set Performance — 60Hz

Service		P.R.P	Standby
Rated output	kVA	113.0	126.0
Active power output※	kW	92	101
Rated Speed	r.p.m	1800	
Standard Voltage	V	380/220	
Voltage available	V	480/277-460/265 - 440/254-416/240-240/139-220/127-208/120	

Perforemance data refer to Standard Reference Conditions of ISO 8528:＋25℃,100m ALT,relative humidity 30%

Power reduction acc.to DIN ISO 3046 Standard values:Above 100m ALT approx.1% per 100m.Above 25℃(77℉) approx.4% per 10℃(50℉). ※Considering cos phi=0.8

Prime Mover Performance — 1800 r.p.m

SERVICE		P.R.P	Standby
Rated output	KW	104	114
Manufacturer		VOLVO PENTA	
Model		TAD551GE	
4 stroke Diesel Engine - Injection type		Direct	
Aspiration type		Turbocharge	
Cylinders,number and arrangement		4	
Bore×Stroke	mm	108X130	
Total Displacement	L	4.76	
Cooling system		Water	
Lube oil specifications		VDS-2. ACEA: E3, E5. API: CG-4, CH-4*	
Compression ratio		18:1	
Specific fuel consumption(P.R.P)	L/H	28.83	
Total coolant capacity	L	29.5	
Speed governor	Type	Common rail with CAN-bus communication	

①P.R.P. Prime Power - ISO 8528:PRIME POWER is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals.The permissible average power output during a 24 hours period shall not exceed 80% of the prime power.10% overload available for governing purposes only.

②Max Standby power -ISO 3046 Fuel Stop power:Power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year ,90% load 200h per year. No overload available. Applicable in case of failure of the main in areas of reliable electrical network.

Synchronous Generator

Manufacturer		Guericke
Model		GRK 92G4
Rated output		92
Poles	num	4
Winding Conections (standard)		Star-serie
Insulation	class	H
Enclosure(according to IEC-34-5)		IP23
Phases		3+N
Votage Regulaors		A.V.R (SX460)
Steady voltage precision		within±1.5% from no load to full loading with cosΦ=0.8-1.0

※Alternator used by GTL Gensets meet the requirements of following Standard:BS5000,VDE0530,NEMA MG1-32,IEC34,CA C22.2-100,AS1359

Generationg Set Installation Data — 1800 r.p.m

EXHAUST SYSTEM		
Exhaust Gas Temperature at full load	℃	540
	℉	1004
Exhaust gas flow	L/s	388.3
Maximum allowed back pressure	Kpa	7
AIR REQUIREMENT		
Air requirement for combustion at 100% load/rated speed	L/s	136.7
	ft3/min(CFM)	289.4
ELECTRIC STARTING SYSTEM		
Starting motor output	kw	5
Standard Battery Charging System	A	55
Auxiliary voltage	V	24
LUBRICATION SYSTEM		
Lube oil system including sump,filters,etc.	L	21

Standard Control Panel -EPmaster EPM4

Protection,distribution,and automatic control panel, which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit EPM4. It also starts and stops the group manually via a pushbutton or remote start-up by contact.

It has the following:

① Emergency stop push button

② Protections:

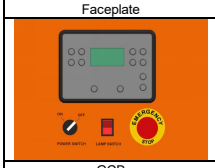
- Circuit breaker (preheating resist.) 2P (16 A)
- Protection fuses for control module

③ Voltage&speed trimmers
④ Battery charger
⑤ DC switch
⑥ Working Lamp switch

⑦ Distribution:Direct output of the circuit breaker

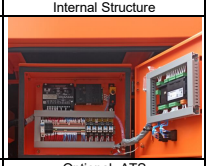
⑧ EPM4&EPM4+(cloud monitoring communication 4G)control and protection centre

Faceplate

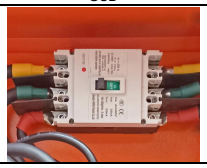


Controller

Internal Structure

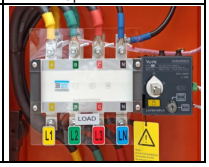


GCB



Emergency Stop Button

Optional: ATS



EPmaster EPM4

It has a digital LCD screen, which provides easy reading of the information regarding the Engine,Alterator,Mains and Charging.The controller meets all requirements for Auto Mains Failure (AMF) applications including remote communication and internet control,user configuration and complete genset monitoring and protection.

▪ READINGS that can be made:	▪Protection of the engine and alternator, with the ALARMS activated:	▪Other characteristics:
Engine **:**cooling temperature/oil pressure/revolution speed (rpm)/fuel level/battery voltage/battery alternator voltage/operating hours/number of start	***Engine*** **:**low oil pressure/high coolant temperature/low and high battery Voltage./failure of the alternator to charge batteries /Low fuel level.	Event log, real-time clock, scheduled start & stop generator (can be set as start genset once a day/week/month whether with load or not). Maximum 99 event logs can be memorized.
Alterator : *voltages between phases* and between phases and neutral/frequency/phase sequence	***Alterator:*** /ow and high voltage/low and high frequency/overload /short-circuit/	With maintenance function. Types (date or running time) can be optional and actions (never, warning, or shutdown) can be set when maintenance time out.
Mains: frequency/voltages between phases and between phases and neutral (L1-N, L2-N,L3-N)/voltages between phases and (L1-L2, L2-L3, L1-L3)/phase sequence	***Mains:*** over and under voltage and loss of phase	Equipped with CANBUS port and can communicate with J1939 enginet. Not only can monitor frequently-used data (such as water temperature, oil pressure, speed, fuel consumption and so on) of ECU machine, but also control starting up, shutdown, raising speed and speed droop via CANBUS port
	▪Control of the set:	RS485 communication interface enables “Three remote” functions (remote control, remote measuring and remote communication) according to MODBUS protocol.
	STARTS and STOPS the set AUTOMATICALLY when mains failure is detected and when it is restored, respectively.It can also operate MANUALLY and Auto Transfer Switch control	Parameter setting: parameters can be modified and stored in internal FLASH memory and cannot be lost even in case of power outage; most of them can be adjusted using front panel of the controller and also can be modified using PC via USB or RS485 port.

Standard Configuration & Option

Item	Standard	Option
Engine	Standard air filter	Heavy duty air filter
	Standard fuel filter	Air intake shutoff valve chalwin type
	Standard oil filter	Intake air heater
	Low coolant level sensor	Oil temperature sensor
	Exhaust gases compensator	Diesel-powered heater
	24V Electrical system	Engine water heater
	Radiator with bloweing fan	
	Electronic governor	
	Sender WT	
	Sender OP	
	Hot components and radiator guards	
	Mobile components guards	
Alternator	Self-excited and Self-regulated	Air inlet filter
	IP23 protection degree	IP44/IP54/IP55
	Insulation H class	Space heater/anti-condensation heater
		Environment protection
		Temperature detectors
		Parallel operation
Electrical system	Battery isolator switch	Distribution board with sockets kit and power busbar
	3 poles circuit breaker	4 poles circuit breaker
	Door opening alarm	Adjustable ELCB（Earth Fault）
	Battery charger 220-240V	Grouding rod
		ATS
Accessories	Water separator filter	Diverter valve kit for external fuel tank
	Low fuel level alarm	Automatic fuel refilling kit
	Oil extraction pump	Trailer
	Tool kit for maintenance	Residential silencer
	Voltage/Speed potentiometer	Electric engine fuel heater
	No Expansion tank	Expansion tank for coolant water

Generating Set transport data

Dimensions(Open Skid Type) With Standard Fuel Tank

Over All Size		
Length	mm	2450
Height	mm	900
Width	mm	1550
Shipping Volume	m3	3.42
Dry Weight	Kg	1220
Fuel Tank Capacity	L	200

√The complete gen-set is mounted on whole on a heavy-duty fabricated,steel base frame.
√ Antivibration pads are fixed between the engine/ alternator feet and the base frame ;
√ Base frame design incorporates an integral fuel tank.
√ The generating set can be lifted or carefully pushed / pulled by the base frame;
√Dial type fuel gauge and drain plug on the fuel tank;
√ Forklift pockets within base frame (up to 500kVA);

Dimensions(Silent Type) With Standard Fuel Tank

Over All Size		
Length	mm	3500
Height	mm	1380
Width	mm	2050
Shipping Volume	m3	9.90
Dry Weight	Kg	2147
Fuel Tank Capacity	L	200

√All canopy parts are designed with modular principles.
√ Without welding assembly
√ All metal canopy parts are painted by electrostatic polyester powder paint.
√Doors on each side
√Thermally insulated engine exhaust system.
√Emergency stop push button outside of canopy.
√Easy maintenance and operation.

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