

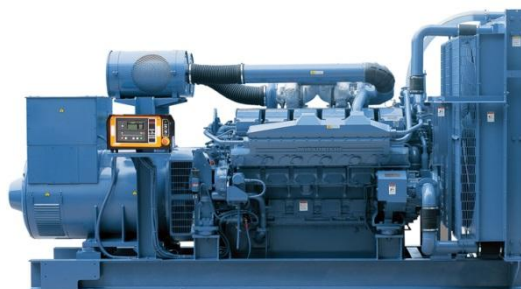
## DATA SHEET

DIESEL GENERATOR 1100KW

MODEL#FDK-M1375/H1

50HZ/1500RPM

MITSUBISHI MODEL: S12R-PTA-C



### General Features:

- ◆ All qualified generator sets are subjected to a comprehensive performance test which includes 50% load, 70% load, 100% load, 110% load and to check, verify that all control systems, alarm and shut-down protection.
- ◆ Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting cables.
- ◆ Stainless galvanized zinc plates with strong corrosion-proof.
- ◆ Vibration isolators between the engine/alternator and base frame.
- ◆ Equipped with industrial silencer and flexible exhaust hose.
- ◆ Designed to comply with ISO8528/GB2820.
- ◆ Powered by Mitsubishi engine and coupled with Stamford alternator.
- ◆ Water jacket preheater, oil heater and double air cleaner, etc. are available.

### FDK Diesel Generator Set Data

Genset Model	FDK-M1375/H1
Prime Power	1000KW/1250KVA
Standby Power	1100KW/1375KVA
Output Frequency / Rated speed	50Hz/1500rpm
Rated Voltage	230V/400V

Engine Make	Mitsubishi China
Engine Model	S12R-PTA-C
Alternator model	Stamford LVI634G
Control System	DSE7320
Phase	Three

(1) **Prime power:** The rating is available for an unlimited of annual operating hours in variable load applications, in accordance with ISO8528-1.A 10% overload is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1.

(2) **Standby power:** The rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

(3) **Rated voltage:** available with customer requirement.

### Engine Specifications (DETAILED in APPENDIX)

Engine Model	S12R-PTA-C
Engine Manufacturer	Mitsubishi China
Cylinder quantity	12
Cylinder Arrangement	V type
Cycle	Four stroke

Aspiration	Turbo charged
Bore x Stroke (mm x mm)	170×180
Displacement	49.03L
Compression Ratio	14:1
Prime power / Speed (KW/RPM)	1080/1500
Standby power/ Speed (KW/RPM)	1190/1500



Speed governor	Electronic	Fuel Consumption at 100% load	N.A.
Piston Speed	9m/s		
Maximum Regenerative Power	105kw	Starter motor	24V
Total Lubrication System Capacity (L)	180	Alternator	24V
Coolant Capacity Engine Only (L)	125	Maximum Overspeed Capacity	2100RPM

## Alternator Specifications

Alternator model	LVI634G	Number of phase	3
Alternator manufacturer	STAMFORD	Rated voltage	400V (Available with custom requirements)
Exciter type	Single bearing, Brushless, Self-excited	Power factor	0.8
Rated output prime power	1250KVA	Voltage regulation NL-FL	≤±1%
Rated speed	1500 rmp	Insulation grade	H
Rated frequency	50Hz	Protection grade	IP23

## Alternator option: Leroy Somer, MECC, Marathon, Engga, Faraday

## Control System DSE7320 (DETAILED in INSTRUCTION)

DSE7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control and automatically start the engine when the mains are abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

### FEATURES

- Microprocessor control, with high stability and credibility.
- Monitoring and measuring operational parameters of the mains supply and genset.
- Indicating operation status, fault conditions, all parameters and alarms.
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, automatic and remote work mode selectable.
- Real time clock for time and date display, overall runtime display, 250 log entries.
- Overall power output display.
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.

## Soundproof Enclosure Specification

FDK silent generator is designed by professional acoustic engineers based on years of experience. Now we can make the noise of the generator less than 80-85dB(A) at 1m, or 70-75dB(A) at 7m, 60-65dB(A) at 15m.

### FEATURES

- Multi-way air intake and exhaust guarantee the power performance of the generator.
- Large-scale impedance combined type silencer effectively reduce noise of the generator.
- Internal high performance rubber damper and flexible materials reduce vibration.
- Base mounted fuel tank supports the generator running for 8 hours.



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

## Optional

Generator set	Alternator	Low environment Temp	ATS
<input type="checkbox"/> Open generator set <input type="checkbox"/> Silent generator set <input type="checkbox"/> Trailer generator set <input type="checkbox"/> ABB MCCB circuit breaker	<input type="checkbox"/> Stamford <input type="checkbox"/> Marathon <input type="checkbox"/> Mecc Alte <input type="checkbox"/> Leroy Somer <input type="checkbox"/> Farady <input type="checkbox"/> Engga	<input type="checkbox"/> Water heater <input type="checkbox"/> Oil heater <input type="checkbox"/> Battery heater	<input type="checkbox"/> CHINT <input type="checkbox"/> SCHNEIDER <input type="checkbox"/> ABB
Fuel system	Control system	Voltage	Synchronized system
<input type="checkbox"/> 12hrs base tank <input type="checkbox"/> 24hrs base tank <input type="checkbox"/> Dual wall base fuel tank <input type="checkbox"/> Outside fuel tank	<input type="checkbox"/> AMF function <input type="checkbox"/> ATS control cabinet <input type="checkbox"/> DSE7320 <input type="checkbox"/> DSE7510 <input type="checkbox"/> GU620A	<input type="checkbox"/> 415/240V <input type="checkbox"/> 400/230V <input type="checkbox"/> 380/220V <input type="checkbox"/> 220/127V <input type="checkbox"/> 200/115V	<input type="checkbox"/> CHINT Cabinet <input type="checkbox"/> SCHNEIDER Cabinet <input type="checkbox"/> DSE8610 Module <input type="checkbox"/> COMAQ Module <input type="checkbox"/> DEIF Module

## Dimension & Weight

### Open

Overall Size: L×W×H (mm)	4900×2150×2450
Weight (kg)	9500

### Soundproof Version

Overall Size: L×W×H (mm)	40FT CONTAINER
Weight (kg)	18000

## Sales Promises

- ◆ FDK provides a full line of brand new and high quality products. Each and every unit is strictly factory tested before shipment.
- ◆ Quality warranty is according to our standard conditions: 12 months from BL date or 1000 running hours, whichever comes first.
- ◆ Service and parts are available from FDK or distributors in your location.
- ◆ FDK guarantee use **BRAND NEW & GENUINE MACHINE.**





## 1. GENERAL

Object and use	:	Diesel generator
Color of painting	:	GB02(GSB05-1426-2001)
Applicable conditions		
Ambient temperature	:	5°C ~ 40°C
Altitude	:	1500m above sea level
Max ,humidity	:	85%
Place of installation	:	In door

### Shop test

Diesel engine running tests shall be carried out by the following items.

#### Starting test

Load test	:	1/4, 2/4, 3/4 Load each
	:	4/4 Load

Governor test	:	Governor test should be done along with respective governor controller
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#### Safety stop device test

### Standard

All items, unless otherwise specified, are in accordance with JIS, GB and manufacturer's standards.

## 2. PRINCIPAL PARTICULARS

Model	:	S12R-PTA-C
Type	:	4cycle stroke, water cooled diesel engine
Combustion chamber	:	Direct injection type
Aspiration	:	Turbocharged with after cooler
Number of cylinders	:	12-V
Bore × stroke	:	170mm × 180mm
Total displacement	:	49.03L
Compression ratio	:	14.0 : 1
firing order	:	1 - 12 - 5 - 8 - 3 - 10 - 6 - 7 - 2 - 11 - 4 - 9
Direction of rotation	:	Counter clockwise as viewed from flywheel side
Engine dimensions (Approx.)	:	Length           Apx. 2570 mm
	:	width            Apx. 1360 mm
	:	Height           Apx. 1595 mm
Dry weight (Approx.)	:	5350kg (without accessories)
Fuel oil	:	ASTM D975 No. 2 - D or BS 2869 class A or GB 252-0
Lubricating oil	:	API service CF class or CH-4 class
Output at ISO 8528 standard air conditions (25°C, 100kPa, 30% Humid)		
Stand-by rating	:	1190kW/1500min <sup>-1</sup>
Prime rating	:	1080kW/1500min <sup>-1</sup>

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### 3. STANDARD EQUIPMENTS

#### (1) power line system

Flywheel	:	DWG.NO.38E96-21001 SAE J620d 21in, except screw size
Flywheel housing	:	DWG.NO.38E96-21001 SAE J617c No.00, except screw size
Engine mounting	:	DWG.NO.38E96-14001 4 points mounting, C = 250mm
Torsional vibration damper	:	Viscous type × 1pc

#### (2) Air intake system

Air cleaner	:	DWG.NO.38E96-30308 loose supply 4 pcs Paper element type with screen cap
Turbocharger	:	MITSUBISHI TD Type Model : TD13L
Air cooler	:	Jacket water cooled type Plated element type
Air heater	:	Not supply

#### (3) Exhaust system

Exhaust manifold	:	Air cooled type with heat insulator
Muffler	:	Not supply
Flexible pipe	:	DWG.NO.S37-1021 loose supply JIS 300A, L = 370mm, weight 70kg
Companion flange	:	Not supply
Breather	:	DWG.NO.38E96-43010 Up side direction type For blow - off to outside of engine room

#### (4) Lubricating system

Oil pump	:	Gear pump type
Capacity of oil pump	:	480L/min ( at Engine Speed 1500min <sup>-1</sup> )
Lub. oil pressure	:	0.5~0.65 Mpa
Quantity of oil (Approx.)	:	Oil pan full level : 150 L low level : 110 L Others (filter etc.) : 30 L Total : 180 L

- Lub. oil filter (Full flow) : DWG.NO.38E96-40001  
Paper element cartridge type × 4pcs  
filter mesh : 20  $\mu$   
with by - pass alarm switch
- Lub. oil filter (By - pass flow) : DWG.NO.38E96-40001  
Paper element cartridge type × 1pc  
filter mesh : 2  $\mu$
- Lub. oil cooler : Water cooled corrugated type with by - pass valve
- (5) Cooling system
- Water pump : Gear drive centrifugal type
- Capacity of water pump : 1650 L/min (at Engine Speed 1500min<sup>-1</sup>)
- Thermostat : Wax pellet type × 4pcs  
Open at 71°C ~ 85°C
- Fan : Pusher type steel fan 1524 diameter, Gear drive  
Fan speed ratio i = 0.672
- Quantity of Coolant : Approx.150L (only Engine)
- (6) Fuel system
- Fuel inlet pipings : DWG.NO.38E96-62112 loose supply  
flexible hose (Rc 3/4 joint)
- Fuel return pipings : DWG.NO.38E96-61312 loose supply  
flexible hose (Rc 3/4 joint)
- Fuel overflow of Inj. Pump and fuel leak - off of Nozzle have to return to fuel tank
- Injection pump : Bosch type "PS6" without timer
- Feed pump : Piston type with priming pump
- Injection Nozzle : Hole type 0.325mm×10 holes
- Fuel filter : DWG, No.38E96-62002  
Paper element cartridge type filter mesh : 5  $\mu$
- (7) Control system
- Governor : DWG.NO.38E96-63005  
Electronic speed governor  
Speed droop : 0 ~ 5% adjustable



Actuator	: DWG.NO.S13-1761 Supply voltage : DC24V± 20% Current consumption At starting : 13A Normal operation : 0.5 ~ 2A Min. Supply voltage : DC16V50%ED
Controller	: DWG.NO.S13-1042 loose supply Model : XS-400B-03 (04410-33100) Supply voltage : DC24V± 20%
Potentiometer	: PM10kΩ ,For low idling speed setting Not supply
Potentiometer	: PM10kΩ,For rated speed setting Not supply
Connector	: DWG.NO.S13-1022 loose supply From actuator to controller 5000mm length
Magnetic pick up	: DWG.NO.S13-2011 With connector
Cable	: DWG.NO.S13-2020 loose supply From magnetic pick up to controller 4300mm length
(8) Starting system	
Starter switch	: with key, with heat position Not supply
Starting motor	: DWG.NO.38E96-66001 DC24V, 7.5KW × 2pcs Reduction type with safety relay with 2 poles connector (DWG.NO.S14-0320)
Safety relay	: Not supply The following Starter Protection functions shall be provided by Customer. 1) Function for concurrent engagement of the two Starter. 2) Function for engagement operation again when engagement of pinion gear fails.

Current of starter : Rush 1250A  
Cranking 400A  
(Ambient temp : 5°C, Lub. oil : SAE No. 30)

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Alternator : DWG.NO.S10-0540  
DC24V, 30A, with voltage regulator  
with 2 poles connector (DWG.NO.S10-0550)

Recommended battery capacity : DC24V, 400AH  
Not supply

Battery switch : Not supply

(9) Stopping system : DWG.NO.38E96-87502

Automatic stop : Automatically shut - down by stop solenoid and  
electronic governor power off simultaneously

Stop solenoid : DWG.NO.S13-0282  
Energized to run type  
DC24V, 30.7A(pull), 0.58A(hold)

Manual stop : By stop lever

(10) Safety device

Alarm switches : DWG.NO.38E96-90206

Alarm and trip

Low oil press. switch : DWG.NO.S11-0796 (04442-45400)  
Diaphragm type : 0.15 MPa switch on

High water temp. switch : DWG.NO.S11-0551 (04442-34500)  
Wax type : 98°C switch on

Alarm

Oil filter alarm switch : [DWG.NO.S11-1371](#)  
Piston type : 0.15 MPa switch on

Oil filter alarm lamp : Not supply

Air filter alarm indicator : DWG.NO.S11-0920 loose supply  
Mechanical type : 635mmH<sub>2</sub>O switch on

(11) Meter and sensor

Meter and sensor : DWG.NO.38E96-90119

Tachometer : Pulse type for engine speed  
With electrical hour meter  
Not supply

Magnetic pick up : DWG.NO.S13-2011  
For tachometer, pin-joint type  
Cable : For magnetic pick up, 4300mm length  
Not supply

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Thermometer : Electrical type for jacket water and lub. oil temp.  
Not supply  
Pressure gage : Electrical type for lub. oil press.  
Not supply  
With 2 poles connector (DWG.NO.S14-0330)  
Thermometer : For exhaust gas temp.  
Not supply

(12) Others

Turning device : DWG.NO. 38E96-71001  
Gear type, for maintenance  
Tools : Not supply

**Declaration:**

To maintain and optimize product performance and reliability, we will do some necessary change timely to product or parts in this specification without altering the basic parameters. If you need more information, please refer to our company's official website or consult us directly.

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4. ACCESSORIES (Loose supply parts)

NO.	PARTS NO.	PATRS NAME	Q'TY	DWG.NO.	
1	47220-26301	AIR CLEANER ASSY.	4	S35-0560	38E96-30308
2	47220-33200	CAP, SCREEN	4	S35-0660	
3	45R30-71100	BRACKET, AIR CLEANER	2		
4	45R30-71200	PIPE, AIR	2		
5	05317-51801	CLAMP	10		
6	05317-52001	CLAMP	2		
7	47221-16800	HOSE, AIR	2	S35-0751	
8	45741-72900	HOSE, RUBBER	4	S35-0731	
9	47720-39300	BAND	8	S35-0600	
10	47910-81400	PIPE,FLEXIBLE	1	S37-1021	
11	45955-22160	HOSE	1		38E96-43010
12	05317-51001	CLAMP	4		
13	47510-59300	PIPE, BREATHER	1		
14	45950-51700	PIPE,FLEXIBLE	1		38E96-61312
15	45950-11300	CONNECTOR	1		
16	45950-51700	PIPE,FLEXIBLE	1		38E96-62113
17	45950-11300	CONNECTOR	1		
18	04410-33100	CONTROLLER	1	S13-1042	38E96-63005
19	04410-32902	CONNECTOR, ACTUATOR	1	S13-1022	
20	04410-43500	CABLE, PICK UP	1	S13-2020	
21	F8665-02100	CONNECTOR	2	S14-0320	for starter
22	32B90-00300	CONNECTOR	1	S10-0550	for alternator
23	MH052231	CONNECTOR	1	S14-0330	38E96-90119
24	47220-34401	INDICATOR	4	S11-0920	38E96-90206

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## 5. DRAWINGS

NO.	DWG. NO.	DWG. NAME	REV.
1	38E96-00222	ENGINE OUTLINE	
2	38E96-01001	JOINT DETAIL	
3	38E96-04028	WIRING DIAGRAM	
4	38E96-14001	MOUNTING DETAIL	
5	38E96-21001	FLYWHEEL & HOUSING DETAIL	
6	38E96-30308	AIR CLEANER	
7	38E96-40001	OIL FILTER	
8	38E96-43010	BREATHER	
9	38E96-61312	FUEL RETURN PIPING	
10	38E96-62002	FUEL FILTER	
11	38E96-62112	FUEL INLET PIPING	
12	38E96-63005	GOVERNOR	
13	38E96-66001	STARTING MOTOR	
14	38E96-71001	TURNING GEAR	
15	38E96-87502	STOP SYSTEM	
16	38E96-90119	METER & SENSOR	
17	38E96-90206	ALARM SWITCH	
18	S10-0540	ALTERNATOR	
19	S10-0550	CONNECTOR	
20	S11-0551	THERMO SWITCH	
21	S11-0796	PRESSURE SWITCH	
22	S11-0920	INDICATOR	
23	S11-1371	FILTER ALARM SWITCH	
24	S13-0282	SOLENOID	
25	S13-1022	CONNECTOR	
26	S13-1042	CONTROLLER	
27	S13-1761	ACTUATOR	
28	S13-2011	MAGNETIC PICK UP	
29	S13-2020	CABLE, PICK UP	
30	S14-0320	CONNECTOR	
31	S14-0330	CONNECTOR	

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NO.	DWG. NO.	DWG. NAME	REV.
32	S35-0560	AIR CLEANER ASSY.	
33	S35-0600	BAND	
34	S35-0660	CAP, INLET	
35	S35-0731	HOSE, RUBBER	
36	S35-0751	HOSE, AIR	
37	S37-1021	FLEXBLE PIPE	

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