

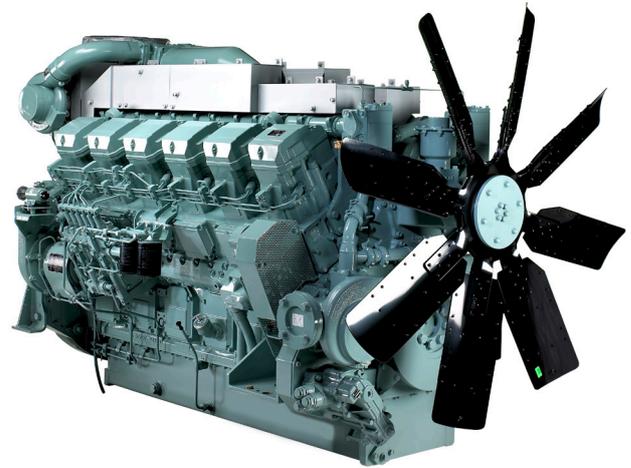
## S12R-PTA

INDUSTRIAL ENGINE | CONSTANT SPEED

MAX OUTPUT 1320 kWm

# MITSUBISHI DIESEL ENGINE

POWERFUL AND RELIABLE



### ENGINE DATA

Engine model	S12R-PTA
Engine type	4-stroke, diesel
Cylinder configuration	12/60°V
Bore x stroke (mm)	170 x 180
Total displacement (l)	49.03
Dry weight (kg)	5350
Aspiration	turbocharged

Cooling system	water-cooled with common jacket water and charge-air cooling circuits
Combustion system	direct injection
Fuel injection system	pump-line-nozzle (2x in-line pump)
Electrical system (V)	24
Rotation (ISO 1204)	counter clockwise
Flywheel and housing	SAE 21" / SAE #00

### RATING<sup>1,2</sup>

	Standby				LTP / PRP / DCCP			
	50		60		50		60	
Frequency (Hz)	without fan	with fan	without fan	with fan	without fan	with fan	without fan	with fan
Output (kWm)	1220	1190	1320	1270	1110	1080	1190	1140
Output (bhp)	1635	1595	1769	1702	1488	1448	1595	1528
Output (kWe) <sup>3</sup>	1159	1131	1254	1207	1055	1026	1131	1083
Output (kVA) <sup>4</sup>	1449	1413	1568	1508	1318	1283	1413	1354
Engine speed (rpm)	1500		1800		1500		1800	
Fuel consumption 100% load (g/kWh) <sup>5</sup>	196	204	201	209	196	204	201	210
Fuel consumption 75% load (g/kWh) <sup>5</sup>	197	208	202	213	198	211	204	217
Fuel consumption 50% load (g/kWh) <sup>5</sup>	205	224	214	231	209	230	218	237
Emission	not regulated							

<sup>1</sup> For rating definitions, please see our website.

<sup>2</sup> All data represents net performance with standard accessories under the condition of 100 kPa barometric pressure, 298 K ambient temperature and 30% relative humidity.

<sup>3</sup> kWe ratings based on 95% alternator efficiency.

<sup>4</sup> kVA ratings based on a power factor of 0.8.

<sup>5</sup> Fuel consumption is based on ISO3046/1 with +5% tolerance at 100% rated power, +10% tolerance at 75% and 50% rated power.

## BENEFITS

The Mitsubishi Diesel Engine range is designed to provide premium levels of performance, durability and reliability with ease of maintenance. Every Mitsubishi Diesel Engine benefits from the following features and advantages:

- Compact configuration to minimize installation footprint.
- Cast iron crankcase with access door per cylinder for easy inspection and maintenance.
- Quenched and tempered steel crankshaft with induction-hardened journals and pins to ensure maximum strength and low bearing wear. The crankshaft can be reground, if required, during a major overhaul.
- Wet-liner cylinder construction to ensure the bore geometry accuracy required to achieve low oil consumption. This type of construction allows easy replacement, if required, during a major overhaul.
- High performance AC8A aluminium-alloy pistons with Ni-Resist iron top ring groove insert ensure low long-term oil consumption with reduced carbon deposits.
- Individual cylinder head assemblies for easy and cost effective servicing.
- Basic consumable parts, such as fuel and oil filters, are positioned to allow easy access during routine maintenance.
- A low number of specialised tools is required to carry out maintenance activities.
- High level of commonality of parts across the Mitsubishi Diesel Engine ranges ensures ease of procurement and simplifies spare part stock control.
- Wide range of engine configurations allows choice of engine to be optimised for the requirements of each individual application.

### Air intake and exhaust systems

The proprietary MHIET\* -designed and -manufactured turbochargers are specifically matched to the characteristics of the engine to provide maximum power output with minimum fuel consumption. Noise-reducing air inlet silencers fitted to turbochargers as standard. Exhaust manifold heat-shield plates available on various models.

#### Option kits available

- Heavy-duty air inlet filter
- Flexible expansion joint (including counter flange)

### Fuel system

Mechanical pump-line-nozzle fuel system offers reliable operation with simplified diagnostics and servicing. Engine-mounted fuel-feed pump allows direct coupling to day-tank system. Standardized spin-on cartridge-type fuel filters allow simplified spare parts management.

### Governing system

There are range of electrical and hydraulic governing systems available:

- Woodward EPG actuator and control system
- Woodward ProAct Intergrated Speed Control actuator
- Woodward PSG hydraulic governing system

#### Option kits available

- Digital setting unit for load-sharing

### Cooling system

Combined jacket water and intercooler coolant circuit, driven by the engine-mounted pump, enables the simplest radiator/heat-exchanger designs to be utilized.

#### Option kits available

- Various radiator designs for different

ambient conditions

- Pre-heater and pump system

### Lubrication system

Gear-driven oil pump and engine-integrated oil cooler ensures optimum performance of the lubrication system and minimum rate of wear in the engine. Easy-access filter bracket includes a bypass filter for added safety. Standardized spin-on cartridge-type oil filters allows simplified spare parts management.

#### Option kits available

- Pre-lubrication pump system
- Manual oil drain pump

### Starter system

24V starter motor system and battery-charging alternator installed as standard. System sized to ensure reliable, fast starting under conditions as low as -10°C. (The use of pre-heating and pre-lubrication starting aids may be necessary under certain conditions).

#### Option kits available

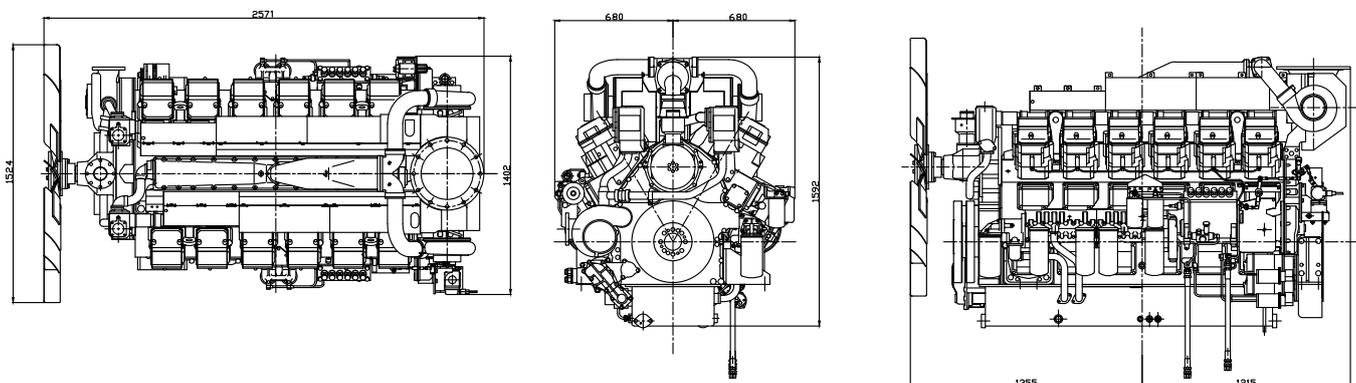
- Air starter
- Redundant starter

### Monitoring system

High coolant temperature, low oil pressure and oil filter status alarm switches fitted as standard.

*\*MHIET: Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. Headquarter for Engine & Energy Division.*

## DIMENSIONS



### More information

Contact your local dealer for more information regarding Mitsubishi Diesel Engines and optional equipment or, visit [engine-genset.mhi.com](http://engine-genset.mhi.com)

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