

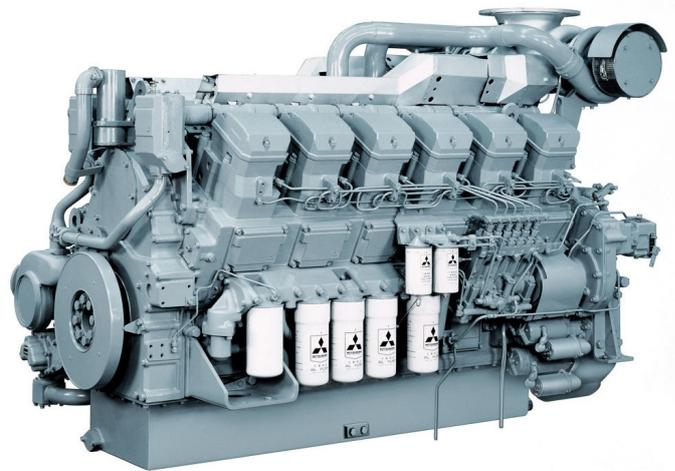
# S12R-A2PTAW

INDUSTRIAL ENGINE | CONSTANT SPEED

MAX OUTPUT 1225 kWm

# MITSUBISHI DIESEL ENGINE

POWERFUL AND RELIABLE



## ENGINE DATA

Engine model	S12R-A2PTAW
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)	5270
Aspiration	turbocharged

Cooling system	water-cooled with separate 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		50	
Frequency (Hz)	without fan	with fan <sup>7</sup>	without fan	with fan <sup>7</sup>
Output (kWm)	1225	1195	1114	1084
Output (bhp)	1642	1602	1493	1453
Output (kWe) <sup>3</sup>	1164	1135	1058	1030
Output (kVA) <sup>4</sup>	1455	1419	1323	1287
Engine speed (rpm)	1500		1500	
Fuel consumption 100% load (g/kWh) <sup>5</sup>	215	220	214	220
Fuel consumption 75% load (g/kWh) <sup>5</sup>	213	218	213	219
Fuel consumption 50% load (g/kWh) <sup>5</sup>	215	220	217	223
Emission <sup>6</sup>	EPA Tier II - 50 Hz		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.

<sup>6</sup> F1, A2 and Y2 series are only emission compliant at the standby rating.

<sup>7</sup> Based on MHIET's recommended/estimated fan loss. These engines are not available in a configuration that includes an engine-mounted fan.

## 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

Toho Seisakusho SG-4017-BR/XS-400B-03 control system provides 'isochronous' or 'droop' governing with fast load-step response characteristics that can be easily adjusted to the design of each genset installation.

#### Option kits available

- Digital setting unit for load-sharing

### Cooling system

The Two-Pump Two-Circuit system has a low-temperature after-cooling circuit, separate from the high-temperature jacket water circuit, to enable increased charge-air density to give higher power output and improved fuel economy. An engine-mounted pump drives each circuit, simplifying the design and control of the cooling system for the installer.

#### 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

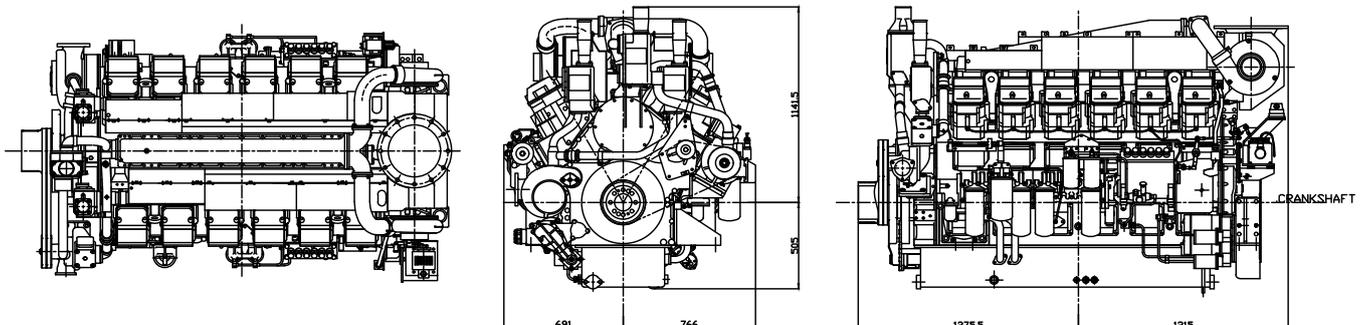
- Air starter
- Redundant starter

### 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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