

# MITSUBISHI DIESEL ENGINES

## Power Generation Rating Definitions

Symbol	Name of rating		Overload Operation (Rack Set)	Definition	Required conditions for warranty (*1)					Applicaton
					Load/operating hour (*2)			Overhaul interval after delivery <Maximum> (*3)		
					Av. Load factor /24 Hr	Ave. Load Factor/ yr	Operating Hr/yr	Top	Major	
E	Critical Power Operation		Not possible (E)	Applications where there standby output continuous operation request of 300hr or lower. Typically example: For Data center	—	100% or lower	500Hr or lower	4yr	600Hr or 8yr whichever comes earlier	Emergency stand-by
	Stand-by			Rated power of an emergency generator that supplies power in case of a failure of main power source or commercial power.	80% or lower (100% in emergency)	60% or lower			3000Hr or 8yr whichever comes earlier	
P	Prime	Limited Running Time	10% E	Regular power source of which the operating hour is limitedto the short period as specified in the required conditions for the warranty in this document. This rating shall be used for applications that require overload operation with Stand-by. LTP as specified in ISO 8528:2005.	Over load (≤110 %) :allowed for 1Hr per 12Hr.	As Per ISO 8528 :2005. 100% or lower	As per ISO 8528 :2005. 500Hr or lower	4yr	1000Hr or 8yr whichever comes earlier	Seasonal peak cut
		Unlimited Running Time		For generators with variable load and unlimited operating hour. PRP (Prime Power) as specified in ISO 8528:2005.	80 % or lower -Overload operation (≤110%) is allowed for 1Hr per 12Hr.  - >90% load is allowed for max. 3Hr per 24Hr operation.	60% or lower	None	4000Hr or 4yr whichever comes earlier	8000Hr or 8yr whichever comes earlier	Daily peak cut, portable generator
C	Continuous (Not applicable to Y1 engines)		Not Possible C	Rating that can continuously generate power without limitation for operating hour per year under the required conditions for warranty in this document. COP as specified in ISO 8528:2005.	100 % or lower	100 % or lower	None	6000Hr or 4yr whichever comes earlier (Recommended :4000Hr)	12000Hr or 8yr whichever comes earlier (Recommended :8000Hr)	Base load, cogeneration system
					90 % or lower	90 % or lower	None	8000Hr or 4yr whichever comes earlier (Recommended :6000Hr)	16000Hr or 8yr whichever comers earlier (Recommended :12000Hr)	
D			Not Possible D	In addition to the definition for C above, this rating shall be used 90% or higher average load factor or longer maintenance interval are required	100 % or lower	100 % or lower	None	8000Hr or 4yr whichever comes earlier (Recommended :6000Hr)	16000Hr or 8yr whichever comers earlier (Recommended :12000Hr)	

MITSUBISHI  
DIESEL ENGINES

S6R/S12A2/S12H/S12R/S16R

Eco-friendly Engines,  
High in Quality and Easy to Maintain



MITSUBISHI DIESEL ENGINES

Environment friendly

Mitsubishi Diesel Engines comply with regulations on emissions control of the U.S. Enviromental Protection Agency (EPA).

Easy maintenance

Accessories requiring daily maintenance are conveniently located on the left side of the engine.

High-reliability design

Engine reliability is enhaced through the adoption of a simple design for optimal functional performance.

Full lineup meeting market needs

the series includes engines from 6 to 16 cylinders, with a wide range of optional equipment to meet diverse market requirements.

SH Series

The adoption of the best-matching in-house-developed ECUI, high-efficiency turbochargers and 2-way coolig system has enabled clean, eco-friendly engines. \*

The adoption of an electronic control system makes for optimized variable injection timing, for improved low-temperature sustainability.

The adoption of a large-sized intercooler enables combustion under high loads.

SR, SA Series

In-house developed high performance turbochargers provide outstanding engine performance under all loads.

High reliability is achieved through the adoption of high-quality parts while retaining the superior features of earlier models.

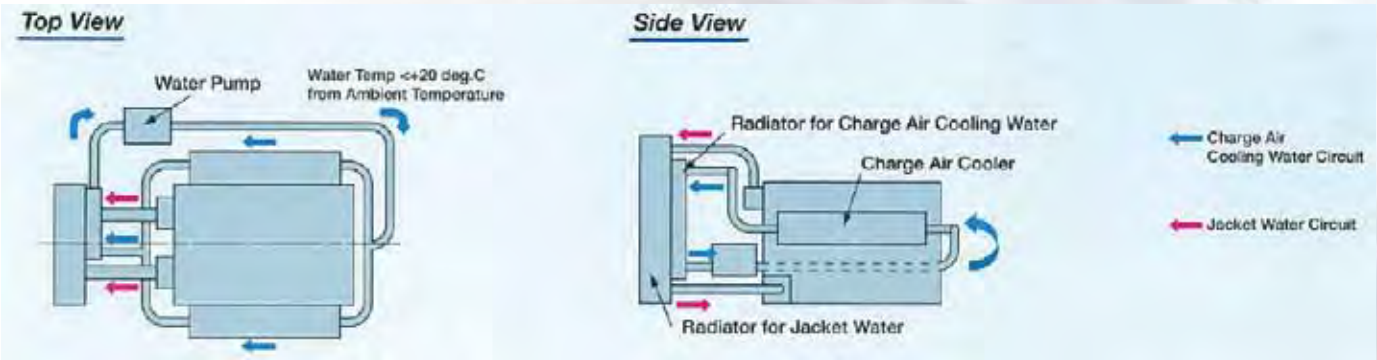
The adoption of a large-sized intercooler enables stable combustion under high loads.

For easier maintenance, SR engines adopt cartridge-type fuel and oil filters and standalone cylinder heads. A large inspection window is also provided. The result is superlative maintainability in addition to high quality.

PTAW (2-way cooling system)\*

PTAW models feature a 2-way cooling system. By separating the cooling system from the intercooler for the jacket water, Mitsubishi succeeded in achieving cooler intake-air temperature than with earlier models. This has enabled lower exhaust gas emissions and improved combustion.

\*Only for EPA Tier 2 Certified engines



SPECIFICATIONS

Tier 1

Model		S6R-Y1PTA-4	S12A2-Y1PTA-1	S12H-Y1PTA-3	S12R-Y1PTA-2	S16R-Y1PTA2	S16R-Y1PTAA2-1 (Dimensions include radiator)
Type		4 cycle, watercooled, turbocharged diesel engine					
Cylinder Arrangement piston bore x stroke		6-170 x 180 (0.2 x 6.7 x 7.1)	12-150 x 160 (0.47 x 5.9 x 6.3)	12-150 x 175 (0.47 x 5.9 x 6.9)	12-170 x 180 (0.47 x 6.7 x 7.1)	16-170 x 180 (0.62 x 6.7 x 7.1)	16- 170x180 (0.62 x 6.7 x 7.1)
Total Displacement		24.51	33.93	37.11	49.03	65.37	65.37
Combustion System		Direct Injection					
Dimensions	Length: mm (inches)	1945.5 (76.6)	2014.5 (79.3)	2250.2 (88.6)	2568. (101.1)	3223. (126.9)	3975. (156.5)
	Width: (mm) (inches)	1085.5 (42.7)	1449.7 (57.1)	1499.9 (59.1)	1454.5 (57.3)	1454.5 (57.3)	2392. (94.17)
	Height: mm (inches)	1498.0 (59.0)	1541.5 (60.7)	1693.5 (66.7)	1592 (62.7)	1810.0 (71.3)	3276. (128.98)
Dry Weight kg (lbs)		2300 (5072)	3250 (7166)	4300 (9482)	4800 (10584)	6200 (13671)	6443 (14207)
Starting System		Electric Starting with Cell Motor					
Fuel Oil		Diesel Fuel Oil (ISO8217 DMX, ASTM No. 2-D)					
Standby power	HF 60Hz~1800rpm (kW)	898 (670)	1207 (900)	1528 (1140)	1881 (1403)	2346 (1750)	2882 (2150)
Prime power	HF 60Hz~1800rpm (kW)	816 (609)	1099 (820)	1389 (1036)	1709 (1275)	2133 (1591)	2620 (1955)

Tier 2

Model		S6R-Y2PTAW-1	S12A2-Y2PTAW-2	S12H-Y2PTAW-1	S12R-Y2PTAW-1	S16R-Y2PTAW-1	S16R-Y2PTAW2-1
Type		4 cycle, watercooled, turbocharged diesel engine					
Cylinder Arrangement piston bore x stroke		6-170 x 180 (0.2 x 6.7 x 7.1)	12-150 x 160 (0.47 x 5.9 x 6.3)	12-150 x 175 (0.47 x 5.9 x 6.9)	12-170 x 180 (0.47 x 6.7 x 7.1)	16-170 x 180 (0.62 x 6.7 x 7.1)	16- 170x180 (0.62 x 6.7 x 7.1)
Total Displacement		24.51	33.93	37.11	49.03	65.37	65.37
Combustion System		Direct Injection					
Dimensions	Length: mm (inches)	1872.0 (73.7)	2098.5 (82.6)	2173.2 (85.56)	2490.5 (98.05)	3045.5 (119.9)	3045.5 (119.9)
	Width: (mm) (inches)	1085.5 (42.7)	1555.5 (61.2)	1673.6 (65.9)	1457.0 (57.4)	1457.0 (57.4)	1457.0 (57.4)
	Height: mm (inches)	1498.0 (59.0)	1542.0 (60.7)	1693.5 (66.7)	1646.5 (64.8)	1810.0 (71.3)	1810.0 (71.3)
Dry Weight kg (lbs)		2705 (5964)	3380 (7452)	4300 (9480)	5270 (11618)	6530 (14396)	6680 (14727)
Starting System		Electric Starting with Cell Motor					
Fuel Oil		Diesel Fuel Oil (ISO8217 DMX, ASTM No. 2-D)					
Standby power	HF60Hz~1800rpm (kW)	918 (685)	1207 (900)	1528 (1140)	1881 (1403)	2346 (1750)	2923 (2180)
Prime power	HF60Hz~1800rpm (kW)	835 (623)	1099 (820)	1389 (1036)	1709 (1275)	2133 (1591)	2657 (1982)

NOTES: 1) Specifications are based on North American standards, variable according to conditions.  
2) HP value is deirved from the formula: HP= kWm/0.746  
3) Ratings are based on SAE J1349 standard conditions of 100kPa (29.61 inHg) barometric pressure and 25° C(77° F) intake air temperature. These ratings also apply at ISO 3046/1, DIN 6271 and BS 5514 standard conditions of 100kPa (29.61 inHg), 27° C (81° F) and 60% relative humidity.  
4) The above output ratings apply when no fan is used.  
5) Output ratio on engine nameplate refers to standby power.