MITSUBISHI HEAVY INDUSTRIES

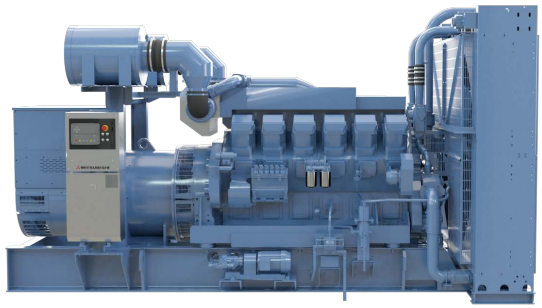

*image is for illustration purpose. It may not reflect actual product

MGS Mitsubishi Generator Series

MGS1700R

S12R-PTA3 | 50 Hz

MITSUBISHI DIESEL GENERATOR

MGS Model		MGS1700R				
Frequency (Hz)		50				
Voltage (V)		380 - 415				
Duty		Standby (ESP)	Critical Power (CP)	Prime (PRP)	Data Center Continuous Power (DCCP)	Continuous (COP)
Rated Output[1] (kVA)		1650		1500		1110
(kW)		1320		1200		880
Engine Model		S12R-PTA3				
Fuel Consumption[2] (liter/hr) (% load)	25%	113		105		80
	50%	189		176		140
	75%	269		244		188
	100%	358		326		241
Generator	MG-	S7D				
Cooling System	Type	Closed looped circuit by integral radiator				
Length	(mm)	4570				
Width	(mm)	2160				
Height	(mm)	2475				
Weight (Dry)	(kg)	10800	10980	10800	10980	10980
(Wet)	(kg)	11360	11540	11360	11540	11540

STANDARD & CERTIFICATIONS

- Certified to standards ISO 9001:2015
- Complies to G3 ISO8528-(1,3,5) sections, IEC60034-1 / BS EN60034-1, BS5000 Part 3, VDE0530, NEMA MG1-32, CSA22-2-100, AS1359 and UL1446
- Fully compliant with the NFPA110 Standard for Emergency and Standby Power
- Provides 100% load acceptance in one step to meet these demands

ENVIRONMENT PARAMETER

- Relative Humidity : 85%
- Altitude above sea level: 1000m
- Ambient Temperature: 5°C - 40°C (Please approach our authorized dealer/distributor for other requirements.)

ADVANCED CONTROL PANEL

- Rugged metal sheet with anti-vibrator isolator
- Operator-friendly interface and navigation
- Complete instrument and control accessories to meet a wide range of installation requirements
- Expansion module and custom programming are available for specific customer requirements

1: Output at 40°C, 1000m ASL with fan
2: Fuel consumption based on fuel density of 0.84 kg/L.
Fuel oil consumption may differ subject to site condition and specification of fuel. Not guaranteed value.

COMPLETE RANGE OF ACCESSORIES

- Power Panel
- Fuel System
- Exhaust System
- Starting/Charging System
- Mechanical Driven Radiator
- Engine Protection Synchronize Module

APPLICABLE CODES AND STANDARDS

MGS is designed in accordance with JIS, JEC, JEM, IEC, ISO (ISO15550, ISO 8528- (1,3,5) sections, ISO3046/1, JISB8002-1, DIN627, BS5514, BS5000, VDEO0530, NEMA MG1-32, IEC60034, CSA (C22.2-100, AS1359) and manufacturer's standards unless otherwise specified.

Telephone Influence Factor (TIF): Less than 50

Telephone Harmonic Factor (THF): Less than 2%

Radio Interference: Suppression is in line with the provision of BS800 and VDE Class 0875G and 0895N

JIS: Japanese Industrial Standards

JEC: Japanese Electrotechnical Comittee

JEM: Standards of Japan Electrical Manufacturer's Association

IEC: International Electrotechnical Commission

ISO: International Standard Organization

Codes may not be available in all model configurations. Please consult local MGS dealer for availability

FUEL RATES

Based on ASTM D975, BS2869, and on fuel oil of 35°C API (16°C or 60°F) gravity having a LHV of 42,780kJ./kg (18,390 Btu/lb.) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001lbs./U.S.gal.).

DIESEL ENGINE

		Standby (ESP)	Critical Power (CP)	Prime (PRP)	Data Center Continuous Power (DCCP)	Continuous (COP)
Gross Engine Power (w/o fan basis)	(kWm)	1429		1299		966
Engine Type		Four-cycled, direct injection, turbocharged with after cooler				
Speed	(RPM)	1500				
Brake mean effective pressure	(MPa)	2.3		2.1		1.6
Regenerative Absorption	(kW)	105				
No.of cylinder		12				
Broke / stroke	(mm)	170/180				
Total displacement	(liter)	49.03				
Compression ratio		14.0:1				
Piston Speed	(m/ sec)	9.0				
Noise Level at 1m (Excluding: intake, exhaust & fan)	(dB(A))	105				
Governor	Type	Digital Electrical Type				
Frequency Regulation		G3 Class				
Steady State Frequency Band		±0.25%				
Heat Rejection to coolant	(kW)	915		827		615
Heat Rejection to exhaust	(kW)	1206		1081		804
Heat Rejection to atmosphere from engine	(kW)	110		100		74

LUBRICATION SYSTEM

Lubricating Oil Capacity	L	180
Lubricating System	Type	Forced lubricating by gear pump wet sump
Lubricating Oil Filter	Type	Paper element
Lubricating Oil Cooler	Type	Water cooled corrugated

COOLING SYSTEM

Coolant Capacity w/o Radiator /with Radiator	L	125 / 338
Coolant Pump External Resistance	kgf/cm2	0.35
Coolant Pump Flow Rate	L/min	1650
Cooling Fan Airflow Rate	m^3/min	2090
Cooling Fan Airflow Restriction	kPa	0.1

ELECTRICAL SYSTEM

System Voltage	VDC	24
Starting System		Electric Starting
Starter Motor Capacity		7.5 kW x 2
Max. Allowable Resistance of Cranking Circuit	mΩ	1.5
Recommended Minimum Battery Capacity	Ah	400 (5℃ & above)
		500 (Below 5℃ to - 5℃)

GENERATOR

		Standby (ESP)	Critical Power (CP)	Prime (PRP)	Data Center Continuous Power (DCCP)	Continuous (COP)
Generator	Type	Brushless, self-excited, self-ventilated and rotating field				
Configuration		3 Phase 4 Wire				
Protection		IP23				
Power Factor		0.8 Lagging				
No of Poles		4 Poles				
Insulation Class		Class H				
Temperature Rise		Class H Peak		Class H		Class F
AVR	Type	DAVR				
Voltage Regulation	Steady State	± 0.25%				
Wave Form Distortion		5% (Non-Distorting Balanced Linear Load)				
Unbalanced Loading		Maximum 25%				
Negative Phase Sequence		Maximum 8%				
Overspeed		Maximum 125% of nominal speed				

INLET AND EXHAUST SYSTEM

		Standby (ESP)	Critical Power (CP)	Prime (PRP)	Data Center Continuous Power (DCCP)	Continuous (COP)
Air Cleaner	Type	Turbo filter	Paper Element	Turbo filter	Paper Element	Paper Element
Combustion Air Inket Flow Rate	m^3/min	125		113		84
Exhaust Flow Rate	m^3/min	332		299		223
Max. Exhaust Gas Temperature	°C	550				
Exhaust Flange Size (Internal Diameter)		300A				
Allowable Exhaust Back Pressure	mm H20	600				

RATING DEFINITION IN ACCORDANCE WITH ISO8528-1

Duty	Overload	Load / Operating Hour		
		Avg. Load Factor/yr	Operating Hr/yr	Avg. Load Factor / 24hr
Standby (ESP)	Not Available	Maximum 70%	Maximum 500 hours	1. Maximum 80% 2. 100% in emergency
Prime (PRP)	+10% Overload	Maximum 70%	Unlimited	1. Maximum 80% 2. Overload operation (≤110%) is limited to a maximum of 1hr per 12 hrs 3. Over 90% load operation limited to a maximum of 3 hrs/24hrs
Continuous (COP)	Not Available	Maximum 100%	Unlimited	Maximum 100%
Critical Power (CP)[3]	Not Available	Maximum 100%	Unlimited	Maximum 100%
Data Center Continuous Power (DCCP)[3,4]	+10% Overload	Maximum 100%	Unlimited	1. Maximum 100% 2. Overload operation (≤110%) is limited to a maximum of 1hr per 12 hrs

3: UPTIME compliant: This DCCP rating meets the requirement of a Tier III and Tier IV data center site with no runtime limitation when the operation is loaded to 'N" demand for the engine generator set.
4: +10% overload is not recognized by Uptime for Tier Certification.

Mitsubishi Heavy Industries Engine System Asia Pte. Ltd. serves customers with products that are continually improved.
Therefore, specifications and some materials may be changed without notice. The International System of units (SI) is used in this publication.

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Mitsubishi Heavy Industries Engine System Asia Pte. Ltd.
3 Tuas Avenue 12, Singapore 639024
Tel: +65 6862 2202
Website: www.mhi.com/group/mhiesa/