

1. Principal Particulars of Diesel Engine

General Specification

Standard	All items, unless otherwise specified, are in accordance with JIS and maker's standards	
Model	Mitsubishi S4Q2 S4Q2-Y365BA (MHI No. 32C00-07920)	
Regulations	EPA & CARB interim Tier4 certified (from 2008y)	
Engine family	*MVXL02.5EEE (*: Model year code)	
Engine model	S4Q2	
Engine code	S4Q2-Y365BA	
Type	4 cycle water-cooled, vertical overhead valve, cylinder in line, swirl chamber type	
Number of cylinders	4	
Bore × Stroke	88mm × 103mm	
Piston displacement	2.505 liters	
Compression ratio	22 : 1	
Rotation	Anti-Clockwise rotation as viewed from flywheel side	
Firing order	1-3-4-2	
Engine weight(Dry)	Approx. 195kg	
Dimensions(Length)	Approx. 684mm	
(Width)	Approx. 504mm	
(Height)	Approx. 633mm	
Fuel	ASTM diesel fuel oil No.2-D(JIS K2204 gas oil specification No.2 or 3)	
Lubricating oil	API classification service CD or CF-4 class	
Output(Without fan)	Spec.Rating	Rating at delivery
	Breaking in around 50hr	Breaking in around 0.25hr
	St-by;25.0kW(34.0PS)/1800rpm	23.8kW(32.4PS)/1800rpm
	Prime;23.5kW(32.0PS)/1800rpm	
	(With fan St-by;24.3kW(33.0PS)/1800rpm)	
	(With fan Prime;22.8kW(30.9PS)/1800rpm)	
Rating tolerance	±5% of nominal	
Speed regulation	Steady state speed regulation at rated speed, within 5%	
Rating conditions(without fan)	ISO 15550	
	Total barometric pressure : 100kPa	
	Air temperature : 298K	
	Relative humidity : 30%	
Fuel consumption	Approx. 270g/kW-h{199g/PS-h} at Prime output after breaking in(With Fan)	
Tolerance	±8%	
Oil consumption	Within 2.7g/kW-h{2.0g/PS-h}	
Fuel injection timing	16°BTDC [Expected]	
Idling engine speed	850 ± 20rpm	
Mean effective pressure	0.64MPa{6.4kgf/cm ² } at Prime output	
Piston speed	6.2m/s at 1800rpm	

Fuel system

Fuel injection pump	In-Line type
Fuel injection nozzle	Throttle type
Governor	Mechanical centrifugal type
Fuel filter	Filtering paper type

Lubricating system

Lubricating system	Forced lubrication by trochoid gear pump
Lubricating oil filter	Filtering paper type, full flow
Oil pressure	0.19~0.39MPa (2~4kgf/cm ²) at duty run 0.1MPa (1.0kgf/cm ²) min. at low idling
Oil capacity	Approx. 6.5 liters (Oil pan high level 5.5 liters, Oil filter etc.Approx. 1.0 liters)
Oil dipstick	Standard dipstick
Oil pressure switch	No
Oil pressure Unit	No

Cooling system

Cooling system	Forced circulation of fresh water by centrifugal pump with thermostat
Engine water capacity	Approx. 4.0 liters
Cooling fan	No
Fan spacer	22mm thickness
Water pump pulley	PCD 116mm
Pulley ratio	1.32 (Crankpulley : Water pump pulley = 153:116)
Water temp. switch	No
Thermo. Unit	No
Thermostat	Open at 76.5deg.C - full open at 90deg.C

Electrical system

Alternator	12V - 50A
Voltage regulator	IC type (Built in alternator)
Regulator set voltage	14.7±0.3V
Alternator pulley	PCD 70mm
Starting system	Electric starting
Starter motor	12V-2.0kW
Glow plug	10.5V,9.7A x 4
Engine shut off system	Electric solenoid (ETR)

Intake and Exhaust system

Intake manifold(cover)	Upper Side way
Exhaust manifold	side way
Induction Resistance	Max 1.96kPa{200mmH ₂ O}
Exhaust Back Pressure	Max 6.67kPa{680mmH ₂ O}

<Remarks>

Engine color	Black(MHI standard color)
Flywheel	SAE #7-1/2
Flywheel housing	SAE #4
Exhaust manifold	Without coating