


# Shanghai Diesel Engine Co., Ltd.

	SDEC <b>SPECIFICATIONS for Marine Engine</b>			Engine model SC38W1000.12CA1		
				Order No W0124		
Displacement	38.2L	Rated power/speed	735/1200 kW/r/min			
Bore	180mm	Overload power/speed	809/1236 kW/r/min			
Stroke	250mm	Oceangoing rated power/speed	720/1200 kW/r/min			
Cylinder No.	6	Oceangoing overload power/speed	792/1236 kW/r/min			
Fuel system	electronic unit pump	Type	Turbocharged&intercooled			
Cert: CCS、IMO Tier II						
SC38W1000.12CA1功率曲线 (curve of output)						
external characteristic curve			propelling characteristic curve			
speed	power	torque	speed	power	torque	fuel consumption
r/min	kW	N. m	r/min	kW	N. m	g/kW. h
1200	754.9	6004	1235	804.8	6218	200
1000	653.8	6241	1200	758.8	6031	197.1
900	614.6	6521	1159	662.2	5457	193.1
800	548.4	6541	1091	551.3	4833	190.1
700	402.4	5493	952	367.5	3685	192.4
602	304.5	4833	756	184.1	2324	205
remark: ★The measurement of rated power&speed is according to standard reference condition under ISO 8665(atmospheric pressure 100kpa, ambient temperature 25℃, Relative humidity 30%, intercooler inlet temperature 25℃),without any accessories, the guaranteed max power after running-in ★The measurement of oceangoing power&speed is according to specified environmental condition under IACS (atmospheric pressure 100kpa, ambient temperature 25℃, Relative humidity 60%, intercooler inlet temperature 32℃),without any						

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accessories, the guaranteed max power after running-in

★Power tolerance: the max tolerance between rated power or overload power should not above 5%

## General specification

Engine model.....	SC38W1000.12CA1
Usage.....	Marine propulsion
Type.....	Turbocharged&intercooled
Rated Power/Speed.....kW/r/min	735/1200
Overload power/speed.....kW/r/min	809/1236
Oceangoing rated power/speed.....kW/r/min	725/1200
Oceangoing overload power/speed.....kW/r/min	798/1236
Max torque @800r/min.....N.m	6541
Max unload stable speed.....r/min	1320
max output power of crankshaft front end.....	50%
Compression Ratio.....	15:1
Average piston speed.....m/s	10
Ignition Order.....	1-5-3-6-2-4
Net Weight.....kg	4200
Speed Governing Rate.....%	≤10
min unload speed.....r/min	≤450±25
Fuel system.....	electronic unit pump, dual walled fuel pipe
advance angle of injection.....° CA	electrical control
max temp of inlet fuel .....°C	45
Max fuel inlet flow.....°C	6.15
Max temp of return fuel.....°C	84
Max fuel return flow.....L/min	4.25
Air intake pressure.....kpa	230
Air intake flow.....kg/h	5944
Exhaust flow.....kg/h	6322
Exhaust temp.....°C	≤550
Cooling system.....	Seawater-fresh water double system
open temp of thermostat .....°C	77
full-open temp of thermostat.....°C	90
Crankshaft Rotation.....	Anticlockwise (From flywheel)
Oversize(L×W×H).....mm	2487×1196×1946
Max allowable air inlet restriction.....kpa	6
Max allowable air outlet restriction .....kpa	11
oil pan capacity.....L	75-100
declared working condition oil pressure.....MPa	0.35~0.55
infeed.....°	15
Incline& trim.....°	5
swing Rolling .....°	22.5
Pitch .....°	7.5

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## ★power output interface

flywheel house: none                                      flywheel: SAE18# 6×M16 depth 27mm bore 35mm  
belt pulley: 6groove Ctype, 7groove Btype with flange(option)

## ★seawater pump

transmission: 2.3l                                      self-suction=2m; suction duration≤35s  
rpm n=3000rpm, flow  $Q \geq 27m^3/h$ ,                      lift H=15m;

## ★alternator

rated power 1755W                                      rated voltage 27V  
rated speed 6000r/min                                  rated current 65A  
connection mode: double

## ★starter

rated power: 13kW                                      rotation direction: clockwise(from drive end)  
rated voltage: 24V                                      connection mode: double

## ★Air starting motor

rated power: 17kW                                      rated speed: 2030r/min  
air pressure: 0.8Mpa                                      air consumption: ≤240L/S  
control voltage: DC24V                                  rotation direction: clockwise(from drive end)

## ★instrument system

low oil pressure alarm value: 0.25MPa              over speed alarm value:115% rated speed  
Low oil pressure stop value: 0.20MPa              over speed stop value:120% rated speed  
High water temp alarm value: 90℃                      High oil temp alarm value: 110℃  
Electromagnet: DC24V

## ★detail connection size as per outline drawing