Tide Power

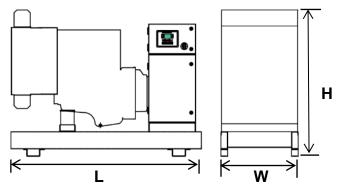
Technical Data

May 2018

Engine	Alternator	Generator	Model
Shanghai MHI S16R-PTA2-C	Leroy-Somer LSA 52.3 S6	FB1875-R / Open	TSR1875C / Silent

50Hz/1500R.P.M	3-Ph	ase		Power Facto ctor Cos Φ =	•	Emissions N/A		
RATINGS	Prime F	ower	Standby	y Power	Rated Current	Fuel Consumption		
RATINGS	(PR	P)	(E	SP)	Amps	@100% Load		
Voltage (V)	kWe	kVA	kWe	kVA	(A)	L/h		
380/220	1500	1875	1650	2063	2848.9	418.0		
400/230	1500	1875	1650	2063	2706.4	418.0		
415/240	1500	1875	1650	2063	2608.4	418.0		

	Key Features:
	- High efficient water cooled diesel engine.
	- Single bearing with brushless alternators (Class H, with AVR).
<u> </u>	- Radiator with pressure cap and drain point.
	- Fully guarded engine-driven fan.
	- Fully welded steel skid base with lifting holes and fork lift legs.
	- Integral fuel tank with filler cap and gauge (\leqslant 650kVA).
	- Heavy duty rubber anti-vibration mountings.
	- 12V or 24V maintenance free starter battery and connecting cables.
	- Separate engine-driven battery charging alternator.
	- Spin on oil and fuel filters and dry type air filter element.
	- Industrial silencer (15dBA reduction) supplied loose.
	- Auto start control system with LCD show.
C Tide Power	- Battery charger provided.
	- Main line 3P circuit breaker.
	- Rigorous factory test wiring with IEC standard.
	- Operation & Maintenance manual & Wiring diagrams.
	- Wide range of optional extra features available.



Overall Dimensions &	& Weights - Open Set	
Length (L)-mm:	5150	
Width (W)-mm:	2250	
Height (H)-mm:	2560	
Dry Weight-kg:	14000	

Ratings: All three phase generator sets are rated at 0.8 power factor. All single-phase generator sets are rated at 0.8 or 1.0 power factor. **Prime Power:** Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year accordance with ISO8528-1, and an overload of 10% permitted for one hour in every twelve hours of operation in accordance with ISO 3046-1. **Standby Power:** Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure. No overload available for this service as relevant alternators are peak continuous rated at 27 °C.

TIDE Power reserves the right to change the design or specifications without notice and without any obligation or liability.

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Shanghai MHI S16R-PTA2-C

		Units	Prime	Standby
	Frequency	Hz	50	
	Engine Speed	r/min	1500	
	Cylinders / Type		16 cyl / 60° V /	4-stroke
	Aspiration		Turbo-Charged, After Cooler (Jacket Water to Cooler)
	Governor Type		Electron	ic
General Performance	Bore / Stroke	mm	170/180)
Fenomance	Displacement	Litres	65.37	
	Compression Ratio		13.5: 1	
	Engine Power (Net)	kWm	1600	1760
	Mean Piston Speed	m/s	9.0	
	Brake Mean Effective Pressure without Fan	kPa	2000	2200
	Fuel Consumption at 110% Prime Power	Litres/hour	502	
	Fuel Consumption at 100% Prime Power	Litres/hour	418	
Evel Overteen	Fuel Consumption at 75% Prime Power	Litres/hour	334	
Fuel System	Fuel Consumption at 50% Prime Power	Litres/hour	251	
	Fuel Consumption at 25% Prime Power	Litres/hour	125	
	Standard Fuel Tank Capacity	Hours / Litres	N/A	
	Maximum Air Intake Restriction			
	- Clean Filter	kPa	3.9	
Air System	- Dirty Filter	kPa	6.2	
	Intake Air flow	m³/min	143	157
	Exhaust Gas Flow	m³/min	378	415
Exhaust	Exhaust Gas Temperature	°C	520	
System	Maximum Back Pressure	kPa	5.9	
	Exhaust Outlet Size	mm	N/A	
	Total Oil System Capacity	Litres	230	
Oil System	Maximum Sump Capacity	Litres	200	
Oil System	Minimum Sump Capacity	Litres	140	
	Max Continuous Oil Temperature	°C	110	
	Coolant Capactiy (Engine only)	Litres	170	
Cooling	- With Radiator and Engine	Litres	560	
System	Thermostat Operation Range	°C	71~85	j
	Maximum Coolant Temperature at Engine Outlet	°C	98	
Flantin	Electrical System Voltage	V	24	
Electric System	Battery		Maintenance	e-free
Oystern	Connecting Cables		Auailabl	e
Energy	Radiated Heat to Ambient	kW	125	137
Energy Balance	Heat Rejection to Coolant	kW	1043	1145
Dalarice	Heat Rejection to Exhaust	kW	1374	1509

Alternator

		Units	
	Manufacture / Brand		Leroy-Somer
	Model		LSA 52.3 S6
	Coupling / No. of Bearings		Direct / Single Bearing
	Phase / Poles		3-Phase / 4-Pole
	Power Factor		Cos Φ = 0.8
General Data	AVR Regulation		Yes
General Data	Voltage Regulation		± 0,5 %
	Insulation Class		н
	Drip Proof		IP23
	Excitation		AREP
	Altitude	m	≤1000
	Overspeed	min -1	2250

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50Hz/1500R.P.M

Controller Model / ComAp	EC 2.0 /	EC 3.0 /	EC 4.0 /	EC 5.0 /	
	Nano Plus	AMF20	AMF25	IG-NT	
Controller Photos					
Standard Supply	×	●	0	0	
Viewable Parameters					
Phase Voltage	×	3	3	3	
Current	Instrumentation	•	•	•	
Frequency		•	•	•	
Active Power	×	•	•	•	
Reactive Power	×	•	•	•	
Apparent Power	×	●	•	•	
Power Factor	×	•	•	٠	
Electric Energy Metering	×	●	•	•	
Generator Protection					
Abnormal Voltage		۲	•	٠	
Over-current Warning	×	•	•	•	
Over current Protection		•	•	•	
Over Frequency Protection		•	•	•	
Short Circuit Protection	MCCB / ●	MCCB / ●	MCCB / ●	MCCB / ●	
Engine Figure					
Oil Pressure		•	•	•	
Water Temperature	•	●	•	•	
Fuel Meter / Fuel Sensor	●/O	●/○	●/○	●/○	
Speed	•	•	•	•	
Battery Voltage	•	•	•	•	
Elapsed Time	•	•	•	•	
Engine Protection					
Engine Protection Low Oil Pressure Warning	×	•	•	•	
Low Oil Pressure Protection	×				
High Temperature Warning	•	•	•	•	
High Temperature Protection	^	•	•	•	
Overspeed Warning	•	•	•	•	
Overspeed Protection	^ X	•	•	•	
Alternator Charger	•	•	•	•	
Functions					
Remote Start	•	•	•	•	
AMF (Auto Main Failure)	•	•	•	•	
Programmable Intput	•	•	•	•	
Programmable Output	•	•	•		
Expand Module	×	0	0	0	
Communication Function	^ X	0	0	•/ RS232 / 485	
Communication Port	USB	0	0	RS232 / 485	
CAN	•	×	•	•	
Service Indicate	×	×	•	•	
Fault History	•	•	•	•	
Gen-Gen Synchronising	×	×	×	•	
Gen-Mains Synchronising	^ X	×	×	•	

Enclosure / Containerized

a tide Power

"Ensure a quieter life with our sound attenuation system." Features:

Extremely Rugged & Highly Corrosion Resistant Construction

- ISO CSC certified container.
- Body made from 2.0mm sheet steel components marine class painting.
- Fuel tank installed inside container for your option.
- Excellent design and craftmanship
- Compact structure and longer service life
- Residential silcencer to made sure the sound level.
 (Box type internal for option)
- Stainless steel locks and cast-iron hinges to withstand corrosive conditions.

Easy Commissioning and Maintenance

- Floor standing control panel inside, easy reachable electrical power connections board.
- Access doors either side with emergency panic release buttons .
- Radiator fill access through cover in container roof.
- Lube oil drain and radiator drain.
- Manual lube oil pump for option.
- Ladder provided to easily maintain.

Security and Safety

- Earth leakage protection.
- 50mm non-inflammable rock wool sound absorber.
- Skid proof plated floor.
- Control panel viewing window in a lockable access door.
- Emergency stop button mounted on either side.
- Emergency DC lighting above each door, integrated AC and DC lighting in the generator set compartment and power distribution system.
- Fuel fill and battery can only be reached via lockable access doors.
- Exhaust silencing system enclosed for operator safety
- Efficient management of cooling air to avoid high water temperature, reliable operation under harshest conditions.

Transportability

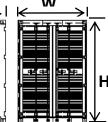
- Lifting four points on top to move genset easily.

easily.	

L

Dimensions	Weight	Noice Level	Base Tank @100% Load			
(L x W x H) mm	kg	dB(A) at 7m	Hours	Litres		
40HQ	23000	≤83	N/A	N/A		





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Automatic Transfer Switch

Tide Power offers not only a changeover switch but also an integrated mains detection and switch system for your 24 Hour Power Protection. The system enables automatic start-up and operation of the generating set in the event of a mains power failure, overvoltage or loss of a mains automatic re-transfer once it come back.

System Advantages

- Automatically transfer and re-transfer load from main power to gen-power without operator intervention.operation (Both automatic and manual).
- ATS Controller (AMF function), seamless integration with AMF25
- Available from 32 4000A, better protection for 4 pole switch.
- Available in standard, bypass isolation and service-entrance configurations.
- Configurable in open, closed and programmed transition operating modes.
- Designed to interface seamlessly with TIDE POWER generators and switchgear.
- Drip proof IP42 enclosure.
- Easy installation: wall-mounted & floor standing
- Comes fully loaded with the technology to do the job.

50/60 Hz, 32-4000 Amps

Rated Current	Amps	32	63	80	100	125	160	200	250	300	315	400	630	800	1000	1250	1600	2000	2500	3200	4000A
	Chinese	×	А	×	Α	×	в	×	с	×	×	с	с	D	D	D	D	E	E	E	×
Breaker Type	ABB	в	в	×	в	в	в	в	в	×	с	с	D	D	D	D	D	E	E	×	×
	Socomec	×	в	в	в	в	в	×	в	×	×	с	D	D	D	D	Е	E	E	E	Е

Dimensions : mm

A: 400×200×500

B: 500×300×650

C: 600×400×1200

D: 800×600×1400

E: 1000×800×1600

Optionals (All depends)

Genset:

Materials & Miscellaneous

- Ÿ Marine class painting and other special painting
- Ÿ Standard accoustic enclosure genset
- Ÿ Extended warranty
- Ÿ Extended factory test
- Ÿ Additional sensors
- Ÿ Off road trailer type
- Ÿ Standard ATS
- Ÿ Mounted fire extinguisher
- Ϋ́ Additional vibration isolation
- Ϋ́ Wooden case packaging
- Ÿ Tide Power tool kit
- Ÿ Additional operation manual
- Ÿ Nylon canvas wrapped packaging
- lifon shelf for double stack shipping
- Ÿ Water jacket heater
- Additional CE features selection.

Custom-Made solutions

Genset:

Materials & Miscellaneous

- Ön road trailer (EU) type
- Ÿ Rental type genset
- Ÿ Mining type genset
- Ÿ Marine type genset
- Ÿ High temp. Radiator for silenttype genset
- Ÿ EPA series gensets



Optionals (All depends)

Diesel Engine/ Baseframe Mounted Accessories:

Cooling System

- Ÿ Engine heat guards
- Ϋ Low coolant level alarm & shutdown (Depends on engine series)
- ÿ High temp. & Anti-erosion radiator upgrade for open type genset
- Ϋ 50% antifreeze @-36°C

Filters

- Ÿ Extra air filters for time-maintenance
- Double heavy duty air filters
- Ÿ Extra fuel filters for time-maintenance
- Ÿ Extra oil filters for time-maintenance

Exhaust

Ÿ Residential silencer for open type genset

- Ÿ Stainless steel silencer and kits
- Heat protection guard

Fuel & Oil

Ÿ Separated / External fuel tank

- Ÿ Water fuel separator
- Ÿ3 way fuel valve
- Ÿ Manual bypass valve
- Ÿ Lub oil make up tank
- Ľub oil drain pump
- Ÿ Fuel level sensor
- Ÿ Fuel cooler
- Ÿ Automatic remote fuel supply with fuel level switch
- & low fuel level alarmshutdown.
- Öcolant heater 220/240V
- Ÿ Lub-oil heater for severe cold weather

Starting & Charging

Ÿ Bulk starting battery -17°C below

- Ÿ Battery removal switch
- Ÿ Battery heater

Control System & Power Termination:

Control System & Breakers

- Ÿ Different functional modules with
- Tide Easycon refer to other table
- Ÿ Mounted audible and visable Ilighting
- Ÿ Control panel cover (80kva or below)
- Ÿ Motorized circuit breaker 3 Poles
- Ÿ Motorized circuit breaker 4 Poles
- ŸACB 3 Poles
- Ÿ MCCB 4 poles
- Ÿ Different breaker brands, like ABB etc
- Ÿ Leakage protection switch

Custom-Made solutions

Diesel Engine/ Baseframe Mounted Accessories:

Cooling System

- Ϋ́ Anti-erosion radiator for silent type genset
- Ϋ́ Remote radiator with heat exchanger
- Ÿ Remote cooling tower with heat exchanger

Filters

- Mounted heavy duty air filter

Exhaust

Ÿ Mounted heavy duty air filter

Fuel & Oil

- Bulk base fuel tank
- Bunded base fuel tank

Starting & Charging

Ÿ None

Control System & Power Termination:

Control System & Breakers

- Ÿarious standard sockets mounted outside the enclosure

Optionals (All depends)

Brushless Alternator:

- Ÿ12 Lead stator (change voltage depends)
- Miterchangeable S.A.E flanges and drive discs
- \ddot{Y} Convenient filters on air inlets and outlets
- Ÿ Coastal type [] Alternator painting color P.M.G or auxiliary
- ŸAREP for Leroy-Somer only
- Ÿ Shunt trip
- Ÿ Exterior potentiometer
- Ÿ Auxiliary contacts and double bearing
- Änti-condensation heater
- Ÿ Stator thermal protection
- Ÿ Quadrature droop kits

Enclosure & Canopy:

Weather protective & Sound proof

- Ÿ R series
- ISO 20ft containerized
- Ÿ ISO 40ft containerized
- Stainless steel locks and hinges

Custom-Made solutions

Brushless Alternator:

- Ÿemperature rise class F Marine type alternator iP upgrade MV

Enclosure & Canopy:

Weather protective & Sound proof

- Super silent enclosure

- Ÿ Weather proof enclosure
- Älat sponge sound absorber enclosure
- $\ddot{\mathbf{P}}$ orous sheet with rockwool sound absorber enclosure

Please refer to Tide Power sales department for full details of the above options.

Warranty

Tide Power distributor, dealer, or authorized representative performs startup within 6 months of the date of shipment from the factory, warranty coverage will begin on the startup date (Register the startup date to Tide with in 6 month is essential and can be enforced). This warranty does not apply to malfunctions caused by damages, unreasonable use, misuse, repair or service by unauthorized persons, or normal wear and tear.

Warranty Coverage

Generators used to commercial utility source: One (1) year or 1000 hours (whichever occurs first) from date of shipment from the factory or registered startup date.