

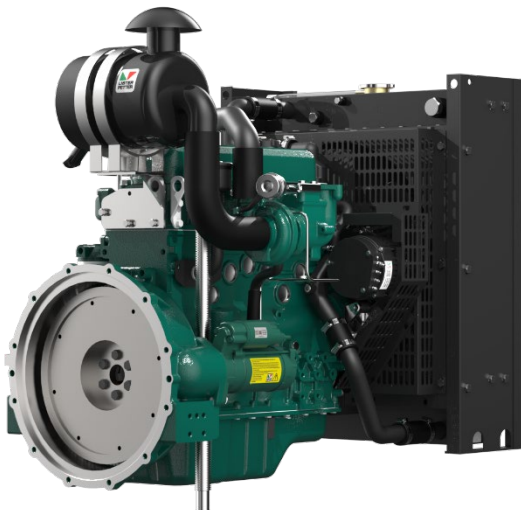
Starlite Series Industrial Engines



SA435i1

Variable speeds
2600 r/min

73.5 kWm | 98.6 bhp



OVER VIEW

The engine is specifically designed as an industrial engine suitable for use in stage II emissions territories. It is durable, reliable and easy to maintain. It is designed for continuous operation in ambient temperatures up to 52° C (125° F) and a cold start capability down to -25° C (-13° F).

G Build

Note:

For further information and approval please contact Applications Department

* Optional items standard on most builds.

BASIC ENGINE CHARACTERISTICS

- direct fuel injection
- 4 cylinders
- liquid cooled
- Turbocharged aspirated

DESIGN FEATURES AND EQUIPMENT

- electric starting
- anti clockwise rotation, looking on the flywheel end
- SAE Flywheel connection
- SAE compliant flywheel housing
- radiator and fanguard
- cast-iron structural crankcase
- self-vent fuel injection system
- mechanical fuel injection equipment
- mechanical and electronic governing variants
- flywheel and gear ring
- cyclonic heavy duty air filtration
- oil pressure protection switch
- coolant temperature protection switch
- spin-on full flow lubricating oil filter
- fuel filter
- intake and exhaust manifolds
- operators' handbook

OPTIONAL ITEMS

A range of options are available that allows you to select a specification that matches your requirements; please consult your Lister Petter Engine distributor.

TECHNICAL DATA

Engine fixed speed 1500r/min		SA435i1
Type of fuel injection		Direct
Number of cylinders		4
Aspiration		Turbocharged
Direction of rotation (flywheel end)		Anti clockwise
Nominal cylinder bore	mm	98
	in	3.86
Stroke	mm	115
	in	4.5
Total cylinder capacity	litre	3.5
	in ³	213.6
Compression ratio		18.5:1
Firing order (number 1 cylinder is at the gear end)		1-3-4-2
Alternator		14V×35A
Starter motor		12V×3.8kW
Fuel injection pump		Mechanical
Speed governor		Mechanical
Speed regulation class		ISO 8528 G3
Fly wheel housing		SAE 4
Fly wheel		SAEJ620 Size 7.5"
Heat rejection (kw)		50.6

EXHAUST AND INTAKE SYSTEM

Parameter	Engine Model
	SA435i1
EXHAUST	
Maximum allowable back-pressure (kPa)	≤ 10
Exhaust gas flow, (m ³ /min)	7.2
Emissions level	Stage II
Exhaust gas temperature, continuous (°C)	400
Exhaust gas temperature, overload (°C)	450
Exhaust pipe diameter - recommended	63.5mm
INTAKE	
Maximum allowable inlet restriction (kPa)	≤ 4
Air intake flow (m ³ /h)	480.5

ENGINE COOLANT SYSTEM

Parameter	Engine Model
	SA435i1
Cooling method	Liquid cooled (belt driven water pump)
RADIATOR	
Material	Aluminium
Radiator face area (m ²)	16.3
Pressure cap setting (kPa)	90
FAN	
Diameter (mm)	490
Number of blades	7
Material	Plastic
Type	Pusher
COOLANT	
Cooling package maximum operating temperature (°C)	≤110
Total system with radiator capacity (L)	14.25
Total system without radiator capacity (L)	5.8
Thermostat type	Wax Capsule
Thermostat opens at... (°C)	72
Thermostat fully open at... (°C)	82
Minimum temperature to engine (°C)	-25
Maximum static pressure head at pump (meters at 1500rpm)	14
Cooling fan flow rate (m ³ /s)	1.74

Recommended coolant:

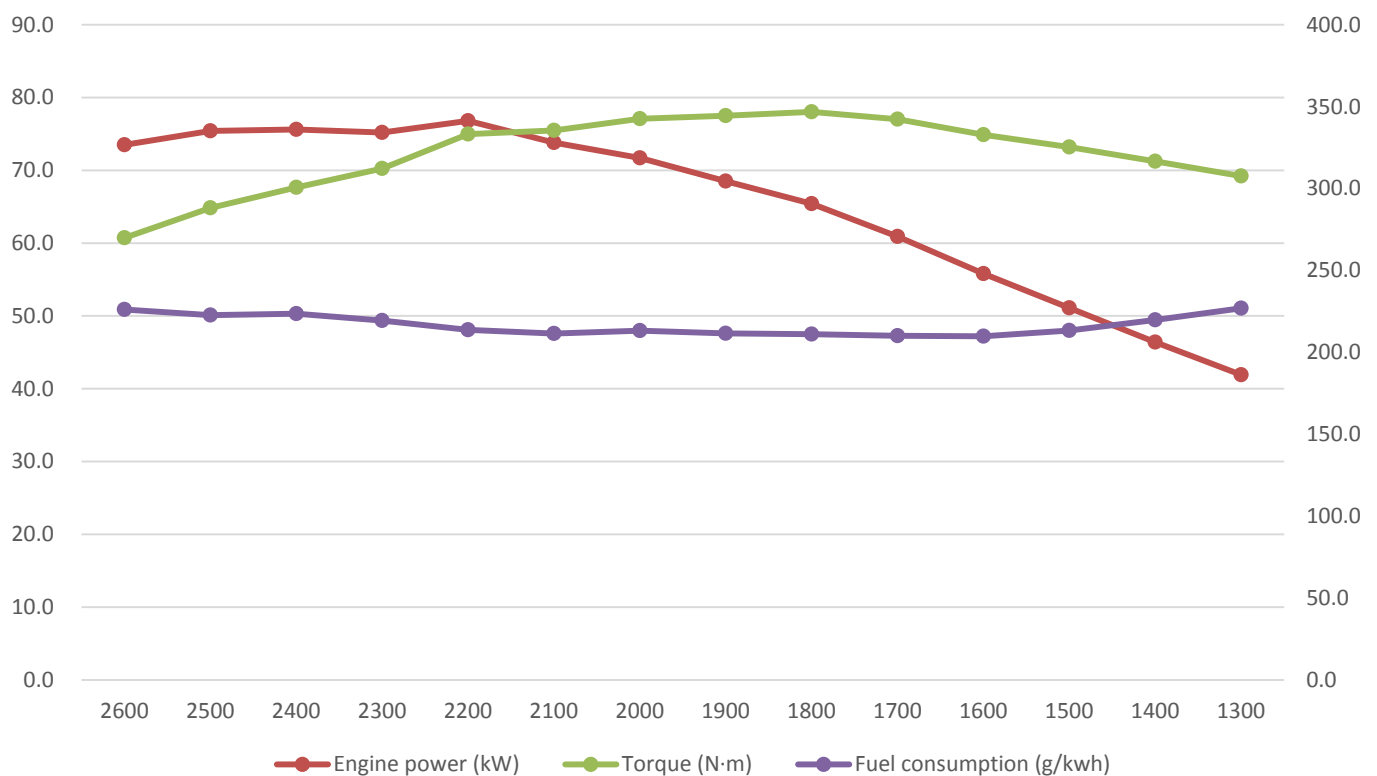
50% ethylene glycol with a corrosion inhibitor (BS 6580 : 1992 or ASTM D3306-89 or AS2108) and 50% de-ionised water

ENGINE LUBRICATION SYSTEM

Parameter	Engine Model
	SA435i1
Lubricating method	Pressure feed and splash
Sump capacity including filter(L)	8.0
Service Interval (hr)	250
Oil filter type	Spin-on full flow oil filter
Oil Specification	API CH-4
	ACEA E5
Oil consumption % SFC	≤ 0.1%
Oil consumption, 100% (l/hr)	0.02
Lubricating oil temperature (°C)	90-105
Maximum oil temperature (°C)	108
Maximum operation angle of engine (degrees)	10°

SA435i1 PERFORMANCE DATA			
Speed (rpm)	Engine power (kW)	Torque (N·m)	Fuel consumption (g/kwh)
2600	73.5	269.9	226
2500	75.4	288.2	223
2400	75.6	300.7	224
2300	75.2	312.2	219
2200	76.8	333.2	214
2100	73.8	335.4	212
2000	71.7	342.6	213
1900	68.5	344.4	212
1800	65.4	346.8	211
1700	60.9	342.3	210
1600	55.8	332.8	210
1500	51.1	325.3	213
1400	46.4	316.6	220
1300	41.9	307.6	227

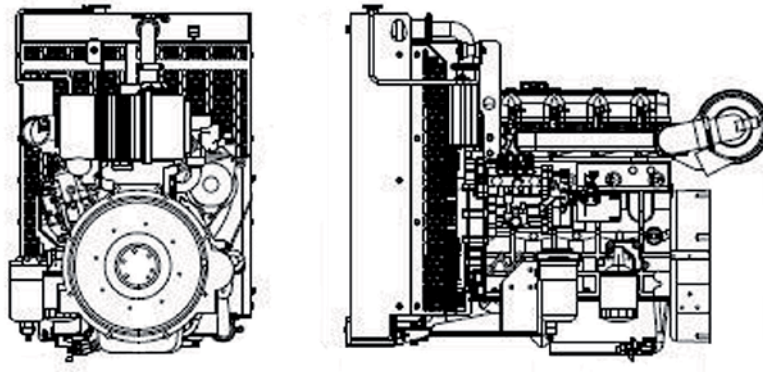
SA435i1 PERFORMANCE CURVE



ENGINE NOISE LEVELS

Parameter	Engine Model
	SA435i1
Sound pressure level at 1m	≤100 dB(A)

APPROXIMATE DIMENSIONS AND WEIGHT



Engine model		SA435i1
Dry weight	kg	324
	lb	713
Length (A)	mm	1063
	in	41.5
Width (B)	mm	670
	in	26.1
Height (C)	mm	945
	in	36.9

TYPICAL PACKING CASE DIMENSIONS

Engine packing case dimensions	Radiator packing case dimensions	Container quantities (Engine with Radiator)		
L*W*H(mm)	W*D*H(mm)	20FT	40FT	40HQ
975*675*930	790*430*1100	24 sets	49sets	50 sets



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