

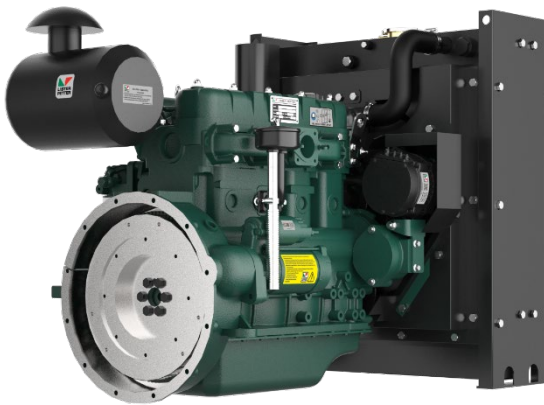
# Starlite Series Industrial Engines



SA423i1

Variable speeds  
Rated point 2600 r/min

29kWm | 38.9bhp



## 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
- natural 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 airfiltration
- 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 model	SA423i1	
Type of fuel injection	Direct	
Number of cylinders	4	
Aspiration	Natural	
Direction of rotation (flywheel end)	Anti clockwise	
Nominal cylinder bore	mm	85
	in	3.35
Stroke	mm	100
	in	3.94
Total cylinder capacity	litre	2.27
	in <sup>3</sup>	138.5
Compression ratio	18.0:1	
Firing order (number 1 cylinder is at the gear end)	1-3-4-2	
Alternator	14V×35A	
Starter motor	12V×3.0kW	
Fuel injection pump	Mechanical	
Speed governor	Electronic	
Speed regulation class	ISO 8528 G2	
Fly wheel housing	SAE 4	
Fly wheel	SAE J620 Size 7.5"	
Heat rejection (kw)	23.4	

## EXHAUST AND INTAKE SYSTEM

Parameter	Engine Model
	SA423i1
<b>EXHAUST</b>	
Maximum allowable back-pressure (kPa)	≤ 10
Exhaust gas flow, (m <sup>3</sup> /min)	2.3
Emissions level	Stage II
Exhaust gas temperature, continuous (°C)	400
Exhaust gas temperature, overload (°C)	450
Exhaust pipe diameter -recommended	63.5mm
<b>INTAKE</b>	
Maximum allowable inlet restriction (kPa)	≤ 4
Air intake flow (m <sup>3</sup> /h)	167.7

## ENGINE COOLANT SYSTEM

Parameter	Engine Model
	SA423i1
Cooling method	Liquid cooled (belt driven water pump)
<b>RADIATOR</b>	
Material	Aluminium
Radiator face area (m <sup>2</sup> )	10.6
Pressure cap setting (kPa)	90
<b>FAN</b>	
Diameter (mm)	380
Number of blades	7
Material	Plastic
Type	Pusher
<b>COOLANT</b>	
Cooling package maximum operating temperature (°C)	≤110
Total system with radiator capacity (L)	9.1
Total system without radiator capacity (L)	3.8
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 <sup>3</sup> /s)	1

**Recommended coolant:**

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

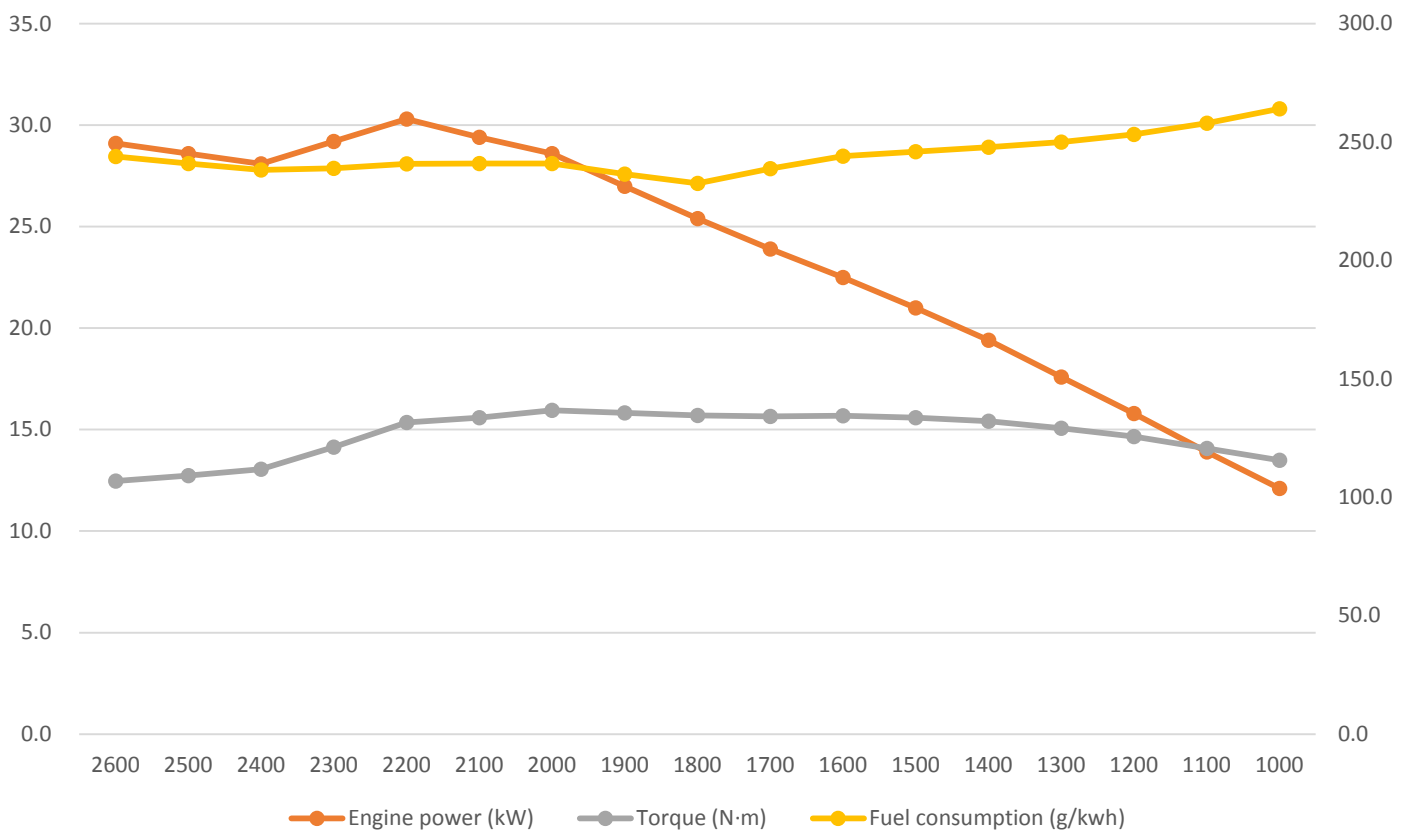
## ENGINE LUBRICATION SYSTEM

Parameter	Engine Model
	SA423i1
Lubricating method	Pressure feed and splash
Sump capacity including filter (L)	6.0
Service Interval (hr)	250
Oil filter type	Spin-on full flow oil filter
Oil Specification	API CH-4
	ACEA E5
Oil consumption % SFC	≤ 0.2%
Oil consumption, 100% (l/hr)	0.006
Lubricating oil temperature (°C)	90-105
Maximum oil temperature (°C)	108
Maximum operation angle of engine (degrees)	10°

## SA423i1 PERFORMANCE DATA

Speed (rpm)	Engine power (kW)	Torque (N·m)	Fuel consumption (g/kwh)
2600	29.1	106.9	244
2500	28.6	109.2	241
2400	28.1	111.9	238
2300	29.2	121.2	239
2200	30.3	131.6	241
2100	29.4	133.7	241
2000	28.6	136.7	241
1900	27.0	135.7	237
1800	25.4	134.6	233
1700	23.9	134.2	239
1600	22.5	134.5	244
1500	21.0	133.7	246
1400	19.4	132.1	248
1300	17.6	129.2	250
1200	15.8	125.7	253
1100	13.9	120.6	258
1000	12.1	115.7	264

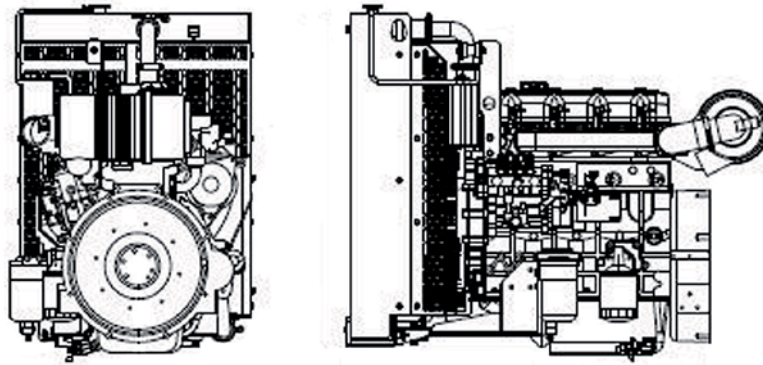
## SA423i1 PERFORMANCE CURVE



## ENGINE NOISE LEVELS

Parameter	Engine Model
	SA423i1
Sound pressure level at 1m	≤98 dB(A)

## APPROXIMATE DIMENSIONS AND WEIGHT



Engine model		SA423i1
Dry weight	kg	245
	lb	539
Length (A)	mm	1030
	in	40.2
Width (B)	mm	590
	in	23.0
Height (C)	mm	765
	in	29.8

## TYPICAL PACKING CASE DIMENSIONS

Engine packing case dimensions	Radiator packing case dimensions	Container quantities ( Engine with Radiator)		
		20FT	40FT	40HQ
L*W*H(mm)	W*D*H(mm)			
975*645*870	790*430*1100	26 sets	50 sets	62 sets



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