

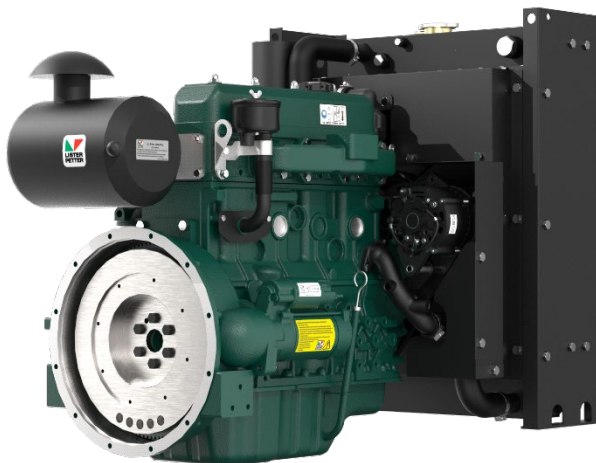
Starlite Series Industrial Engines



SA432i3

Variable speeds
Rated point 2600 r/min

65 kWm | 87.2 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 fangard
- 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 | SA432i3 | |
| 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 | 105 |
| | in | 4.13 |
| Total cylinder capacity | litre | 3.17 |
| | in ³ | 193.4 |
| 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 | Electronic | |
| Speed regulation class | ISO 8528 G3 | |
| Fly wheel housing | SAE 4 | |
| Fly wheel | SAEJ620 Size 7.5" | |
| Heat rejection (kw) | 45 | |

EXHAUST AND INTAKE SYSTEM

| Parameter | Engine Model |
|---|--------------|
| | SA432i3 |
| EXHAUST | |
| Maximum allowable back-pressure (kPa) | ≤ 10 |
| Exhaust gas flow, (m ³ /min) | 6.7 |
| 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) | 439.3 |

ENGINE COOLANT SYSTEM

| Parameter | Engine Model |
|--|--|
| | SA432i3 |
| Cooling method | Liquid cooled (belt driven water pump) |
| RADIATOR | |
| Material | Aluminium |
| Radiator face area (m ²) | 13.6 |
| 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) | 13.25 |
| 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:

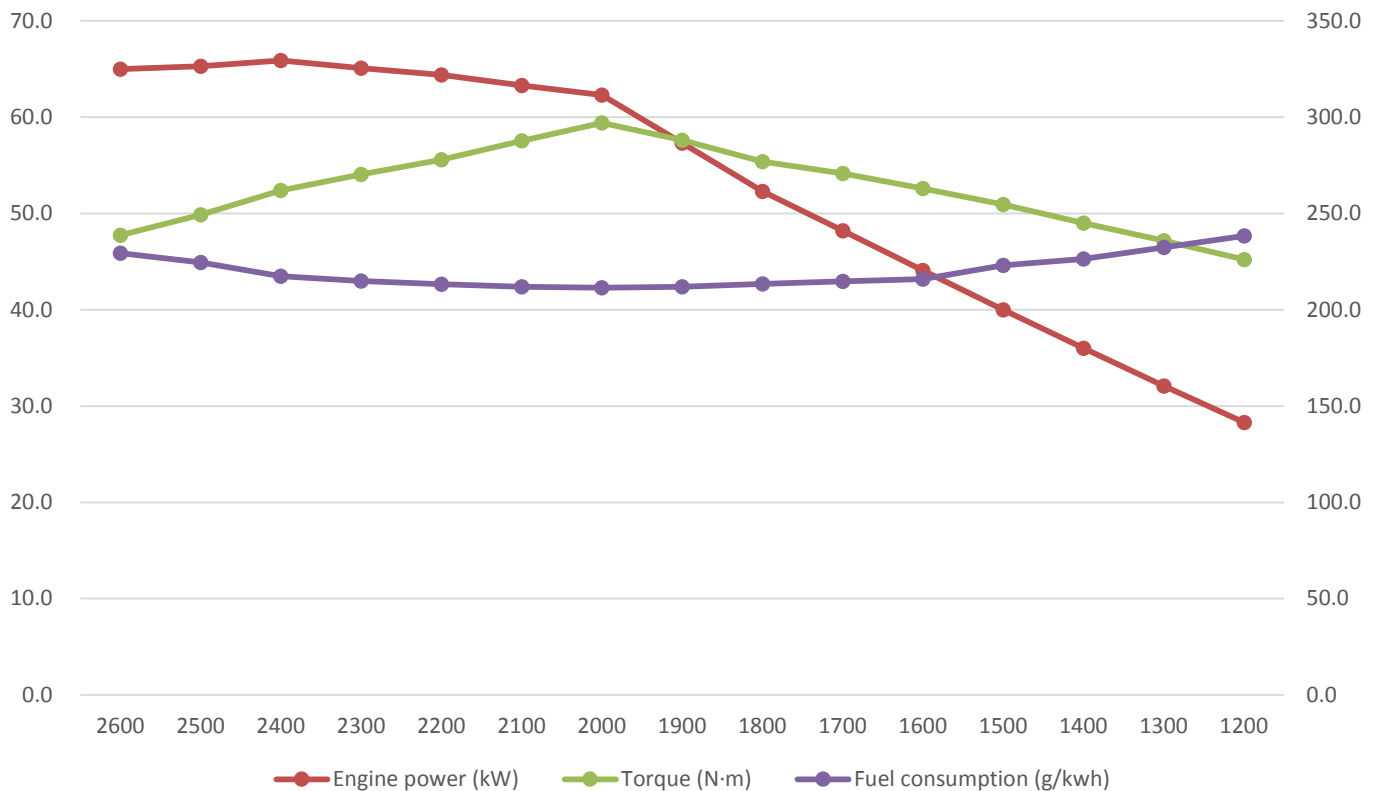
50% ethylene glycol with a corrosion inhibitor (BS 6580 : 1992 or ASTM D3306-89 or AS2108) and 50% de-ionised water

ENGINE LUBRICATION SYSTEM

| Parameter | Engine Model |
|---|------------------------------|
| | SA432i3 |
| 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) | 0.016 |
| Lubricating oil temperature (°C) | 90-105 |
| Maximum oil temperature (°C) | 108 |
| Maximum operation angle of engine (degrees) | 10° |
| Oil pressure @ Idle speed (minimum allowable) (bar) | 0.5 |
| Oil pressure @ Rated speed (bar) | 1.8~6.0 |

| SA432i3 PERFORMANCE DATA | | | |
|--------------------------|-------------------|--------------|--------------------------|
| Speed (rpm) | Engine power (kW) | Torque (N·m) | Fuel consumption (g/kwh) |
| 2600 | 65.0 | 238.7 | 229 |
| 2500 | 65.3 | 249.4 | 225 |
| 2400 | 65.9 | 262.0 | 218 |
| 2300 | 65.1 | 270.3 | 215 |
| 2200 | 64.4 | 278.0 | 213 |
| 2100 | 63.3 | 287.8 | 212 |
| 2000 | 62.3 | 297.0 | 211 |
| 1900 | 57.3 | 288.0 | 212 |
| 1800 | 52.3 | 277.0 | 213 |
| 1700 | 48.2 | 270.7 | 215 |
| 1600 | 44.1 | 263.0 | 216 |
| 1500 | 40.0 | 254.6 | 223 |
| 1400 | 36.0 | 245.0 | 226 |
| 1300 | 32.1 | 235.8 | 232 |
| 1200 | 28.3 | 226.0 | 238 |

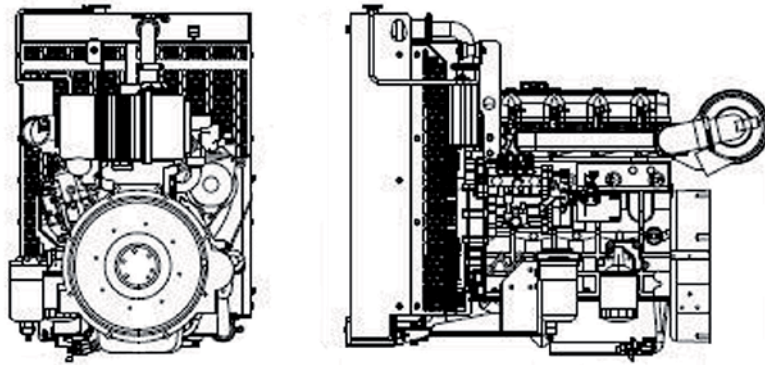
SA432i3 PERFORMANCE CURVE



ENGINE NOISE LEVELS

| Parameter | Engine Model |
|----------------------------|--------------|
| | SA432i3 |
| Sound pressure level at 1m | ≤100 dB(A) |

APPROXIMATE DIMENSIONS AND WEIGHT



| | | |
|--------------|----|---------|
| Engine model | | SA432i3 |
| Dry weight | kg | 312 |
| | lb | 686 |
| Length (A) | mm | 1155 |
| | in | 45 |
| Width (B) | mm | 670 |
| | in | 26.1 |
| Height (C) | mm | 845 |
| | in | 33.0 |

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*675*930 | 790*430*1100 | 24 sets | 49sets | 50 sets |



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