



# SIGMA Series G-Build Engine

## SIGMA 20

Power range: 21.8 kW; 29.2 bhp  
Fixed speed: 1500 r/min

### Naturally aspirated heavy-duty G-Build diesel engine

#### Special Attributes

- suitable for generating sets
- 250-hour service intervals
- continuous operation in ambient temperatures up to 50 °C (122 °F)
- unaided cold-start down to -2 °C (28.4 °F)

#### Basic Engine Characteristics

- three cylinders
- diesel fuelled
- direct injection
- liquid cooled
- naturally aspirated

#### Design Features and Equipment

- standard oil and fuel filters
- 12 V electric start
- anticlockwise rotation, looking on flywheel
- SAE 10" flywheel
- SAE3 flywheel housing
- radiator with fan guard
- cast-iron crankcase
- self-vent fuel system
- inline fuel injection pump
- flywheel with ring gear
- air cleaner
- low oil-pressure switch
- spin-on lubricating-oil filter
- primary/secondary fuel filter
- inlet and exhaust manifolds
- operators' handbook
- instrumentation package

#### Warranty

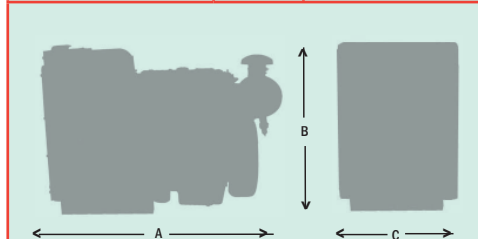
- standard: one year



Technical Data		
		SIGMA 20
Number of cylinders	3	
Firing order (number 1 cylinder is at gear end)	1 2 3	
Fuel injection	Direct injection	
Aspiration	Natural	
Direction of rotation, looking on flywheel	Anticlockwise	
Nominal cylinder bore	mm	91.44
	in	3.60
Stroke	mm	127
	in	5
Total cylinder capacity	litre	2.50
	in <sup>3</sup>	152.4
Compression ratio	18.5:1	
Rated maximum full-load speed	r/min	1500
Mean piston speed	m/sec	6.35
	f/sec	20.8
Oil consumption	Maximum 0.3% of fuel consumption	

**Dimensions and Weight**

Length (A)	mm	947
	in	37.28
Height (B)	mm	785
	in	30.90
Width (C)	mm	730
	in	28.74
Dry Weight	kg	340
	lb	750



**Power Outputs\***

		SIGMA 20
		r/min
		1500
Continuous Power	kW	21.8
	bhp	29.2
Overload Power	kW	24
	bhp	32.1

**Rating Definitions, to ISO 3046**

**ISO Standard Conditions**

Barometric pressure ..... 100 kPa  
 Relative humidity..... 30%  
 Ambient temperature at air inlet manifold .....25°C

**Fixed speed power: continuous power (ICN)**

The power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under ISO standard conditions, measured at the flywheel without power-absorbing accessories, provided that the engine is overhauled and maintained in good operating condition and that fuel to BS EN 590 Class A1 or A2, and lubricating oils to the correct performance specification and viscosity classification as recommended by Lister Petter Limited, are used.

**Fixed speed power: overload power (ICXN)**

The maximum power in kW which the engine is capable of delivering intermittently at the stated crankshaft speed for a period not exceeding one hour in any period of twelve hours' continuous running, immediately after working at the continuous power, under ISO standard conditions and with the provisions specified for continuous power above.

**De-rating**

For non-standard site conditions, reference should be made to relevant BS, ISO and DIN standards.

**Fuel Consumption**

		SIGMA 20
		r/min
		1500
litres/hour @ 100% power (continuous power)		6.0

A comprehensive range of options allows you to select a specification that matches your requirements. Please ask your Lister Petter distributor. (See panel below left.)

**Distributor's Address**

**Notes:**

1. Power ratings are measured at the flywheel end.
2. Power ratings and fuel consumption figures apply to a fully run-in, non-derated engine without a radiator and fan fitted, and without power-absorbing accessories or transmis-



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