DWS4 Series

Power Ranges: 23.7 – 48.5 kW; 31.8 – 65.0 bhp
Full Load Speed Range: 1200 – 2500r/min

Engine Characteristics:

- Lister Petter four cylinder, indirect injection.
- Naturally aspirated.
- Water cooled.
- Diesel fuelled.
- Anti-clockwise rotation, looking on the flywheel end.
- Standard oil and fuel filters.
- Heavy duty air cleaner.
- 12 volt electric starting with a 55 Amp alternator.

Design Features:

- Designed for continuous operation in ambients up to 52°C (122°F)
- Tropical radiator with a pusher fan and full guarding.
- Gear driven positive displacement type lubricating oil pump.
- 250 hour service intervals.
- Self-vent fuel system with a rotary fuel injection pump and integrated fuel control solenoid.
- Combustion chamber glow plugs.

Warranty

- Standard – two years from manufacture.
- Optional – five years from the date of sale (conditions apply).

Emission Compliant

- EPA Tier 2 compliant – 1800rmin fixed speed.

Typical Engine Features

Standard Equipment and Options

Standard Equipment:

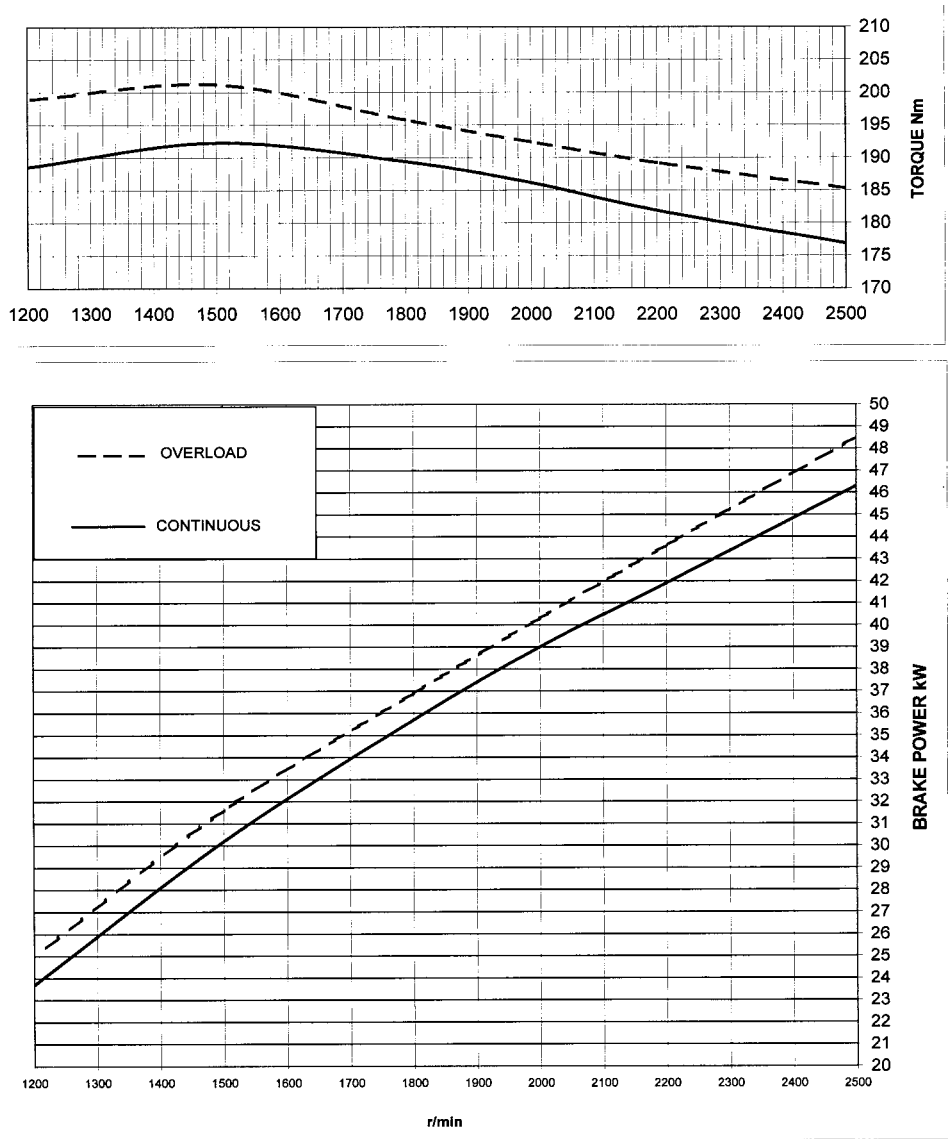
- Flywheel with ring gear.
- Flywheel housing with SAE3 flange.
- Inlet and exhaust manifolds.
- Spin-on lubricating oil filter.
- Fuel filter/agglomerator.
- Electric fuel lift pump.
- Low oil pressure switch.
- Operators Handbook.

Optional Items:

- A comprehensive range of options allows the customer to select a specification which matches their requirement.
- Five year warranty from the date of sale (conditions apply).

Power and Torque Performance to ISO 3046

	r/min	1200	1500	1800	2000	2200	2500
Fixed speed continuous	kW	-	28.7	33.2	-	-	-
	hp	-	38.5	44.5	-	-	-
Fixed speed overload power	kW	-	31.6	36.5	-	-	-
	hp	-	42.3	48.9	-	-	-
Variable speed continuous	kW	23.7	30.2	35.7	39.0	41.9	46.3
	hp	31.4	40.5	47.9	52.3	56.2	62.1
Variable speed overload power	kW	25.0	31.6	36.9	40.3	43.6	48.5
	hp	33.5	42.4	49.5	54.0	58.4	65.0
Torque – variable speed con-	Nm	188.6	192.3	189.4	186.2	181.9	176.9
	lbf ft	139.1	141.8	139.7	137.4	134.2	130.5



The performance curves relate to a run in engine, correctly built and tested, without radiator and fan fitted

Fuel Consumption – full load, continuous power

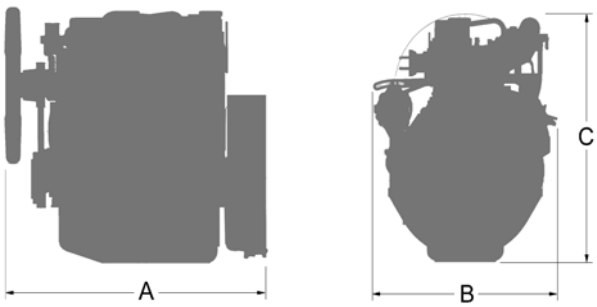
r/min	1200	1500	1800	2000	2200	2500
g/kW h	230	235	242	242	240	245

Technical Data

Type of fuel injection		Indirect
Aspiration		Natural
Direction of rotation – looking on flywheel end		Anti-clockwise
Nominal cylinder bore	mm	94.0
	in	3.7
Stroke	mm	120.0
	in	4.7
Total cylinder capacity	litre	3.33
	in^3	203.3
Compression ratio		22:1
Firing order (number 1 cylinder is at the gear end)		1-3-4-2
Minimum idling speed	r/min	700
Minimum full load speed	r/min	1200
Number of flywheel ring gear teeth		122
Number of starter motor pinion gear teeth		10
Maximum intermittent end thrust - forwards towards the flywheel	N	2160.0
	lbf	485.0
- rearwards away from the flywheel	N	1080.0
	lbf	242.5
Maximum continuous end thrust - forwards towards the flywheel	N	1080.0
	lbf	242.5
- rearwards away from the flywheel	N	540.0
	lbf	121.3
Maximum inline power take off from the crankshaft pulley	Nm	20.0
	lbf ft	44.1
Auxiliary hydraulic power take off drive ratio		1:1
Auxiliary hydraulic power take off maximum permissible torque	Nm	125.0
	lbf ft	276.0
Maximum permissible intake restriction at full rated speed and load	mbar	63.5
	in H_2O	25.0
Maximum permissible exhaust back pressure	mbar	68.0
	in H_2O	27.2

Approximate Dimensions and Weight

Dry weight	kg	245
	lb	539
Length (A)	mm	781
	in	30.7
Width (B)	mm	570
	in	22.4
Height (C)	mm	712
	in	28.0



Rating Definitions (ISO 3046)

1. Fixed Speed Power - continuous speed (ICN)

The power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under conditions of 100 kPa barometric pressure, 30% relative humidity and 25°C air inlet temperature, 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.

2. Fixed Speed Powers - 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, uner the conditions specified in (1) above.

3. Variable Speed - fuel stop power, continuous power (IFN)

The maximum power in kW which an engine is capable of delivering continuously at stated crankshaft speed, under the conditions as specified in item 1, with the fuel limited so that the fuel stop power cannot be exceeded.

4. Variable Speed - fuel stop power, intermittent (IOFN)

The maximum power in kW which an engine is capable of delivering intermittently at the stated crankshaft speed, for a period not exceeding 1 hour in any period of 12 hours continuous running immediately after running at the Continuous Fuel Stop Power rating.

5. De-rating

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

***Notes**:*

1. *The overload capability applies to a fully run-in engine. This is normally attained after a running period of about 50 hours .*
2. *Power ratings measured at the flywheel and fuel consumptions, apply to a fully run-in, non derated engine without a radiator and fan fitted, and without power absorbing accessories or transmission equipment.*

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