



# AC and AD Series

AC1 Power Ranges: 2.8 – 7.1 hp; 2.1 – 5.3 kW

AD1 Power Ranges: 3.4 – 8.2 hp; 2.5 – 6.1 kW

Full Load Speed Range: 1500 – 3600r/min

Air cooled, direct injection diesel engine

## Engine Characteristics:

- Single cylinder.
- Direct injection.
- Naturally aspirated.
- Air cooled.
- Diesel fuelled.
- AC1 clockwise and anti-clockwise rotation, looking at flywheel end, builds available AD1 clockwise rotation looking at flywheel end.
- Mechanical governing.
- Hand or optional 12 volt electric starting.

## Design Features:

- Light weight aluminum alloy crankcase. Large bearing surfaces for low bearing loads and long life.
- Designed for continuous operation in ambients up to 52°C (125°F)
- Self regulating plunger type lubricating oil pump.
- 250 hour service intervals.
- Mechanical governing provided for either constant speed or variable speed depending on build. Governor set governing is available for 1500, 1800, 3000, & 3600 (AC1 only) r/min.
- Hold down feet are integral with the sump for base mounting
- Rope start at flywheel end is available. Hand starting is available on the camshaft extension at the gear end or from geared arrangement on the flywheel. Starting handles are available in both limited or on-limited kickback versions. 12 volt electric starting is optional.

## Warranty:

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

## Typical Engine Features



## Standard Equipment:

- Decompressor lever.
- Governor - fixed or variable speed.
- Grey paint finish.
- Inlet & exhaust manifold.
- Lifting eye.
- Lubricating oil filter.
- Operator's handbook.
- SAE6 bellhousing.

## Optional Items:

- Air cleaner - medium duty.
- Exhaust silencers.
- Engine protection switches & solenoids.
- Fuel filters.
- Fuel tanks.
- 12 volt starter motor.

## Power Output

Engine Speed r/min		Continuous Power		Intermittent Power	
		BS5514/ISO3046/DIN6271			
		AC1	AD1	AC1	AD1
3600	kW	4.8	5.6	5.3	6.1
	hp	6.5	7.5	7.1	8.2
3000	kW	4.5	5.3	4.9	5.8
	hp	6.0	7.1	6.6	7.8
2500	kW	3.7	4.3	4.1	4.8
	hp	5.0	5.8	5.5	6.4
2100	kW	3.0	3.5	3.3	3.9
	hp	4.0	4.7	4.4	5.2
1800	kW	2.4	3.0	2.7	3.3
	hp	3.2	4.0	3.6	4.4
1500	kW	2.1	2.5	2.3	2.8
	hp	2.8	3.4	3.1	3.7

## Torque - Variable Speed

Engine Speed r/min		Intermittent Power	
		BS5514/ISO3046/ DIN6271	
		AC1	AD1
3600	Nm	14.1	16.3
	ft lbs	10.4	12.0
3000	Nm	15.7	18.6
	ft lbs	11.6	13.7
2500	Nm	15.7	18.1
	ft lbs	11.6	13.4
2100	Nm	14.9	17.5
	ft lbs	11.0	12.9
1800	Nm	14.4	17.5
	ft lbs	10.6	12.9
1500	Nm	14.6	17.5
	ft lbs	10.8	12.9

## 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, under 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.

Technical Data		AC1	AD1
Bore	mm	76.2	80.0
	inch	3.00	3.15
Stroke	mm	66.7	73.0
	inch	2.62	2.87
Cylinder Capacity:	liter	0.304	0.367
	in <sup>3</sup>	18.6	22.4
Lubricating Oil Capacity: (including filter)	liter	2.7	2.7
	pint	4.8	4.8
Fuel Consumption @ 2500 r/min: (75% load)	l/h	0.9	1.0
	pt/h	1.6	1.8
Specific Fuel Consumption: (full load @ max. torque speed—5% tol.)	g/kW h	268	265
	Lb/hp h	0.44	0.43
Angles of inclination: Permanent (Temporary)	Flywheel end up	35°(40°)	40°(40°)
	Flywheel end down	40°(40°)	45°(45°)
	Manifold side up	40°(40°)	45°(45°)
	Manifold side down	40°(45°)	30°(32°)
Minimum Idling Speed:	r/min	1000	1000
Combustion Air Required: @ 2100 r/min.	l/s	5.7	6.4
	ft <sup>3</sup> /min	12.1	13.6
Dry Weight (including flywheel)	kg	47	53
	lb	103	117

Electrical System		AC1	AD1
Alternator Output:	amp	14	14
Starter Motor Power:	kW	0.9	0.9
Starter Motor Battery Cold Cranking Performance Rating: (BS3911-Part 2)	Amp @ -8°C (18°F)	115	125
	Amp @ -18°C (0°F)	190	200
Minimum Starting Temperature*:	°C	-15°	-15°
	°F	5°	5°

\*Consult Lister Petter concerning performance at lower temperatures.



## A-Series: AC and AD Air-Cooled Engines Technical Data Sheet

Principal Dimensions				
Dimension	AC1		AD1	
	mm	inches	mm	inches
A	456	17.9	456	17.9
B	412	16.2	412	16.2
C	458	18.0	509	20
D	149	5.9	149	5.9
E	148	5.8	148	5.8
F	250	9.8	250	9.8
F1	148	5.8	148	5.8
G	194	7.6	194	7.6

The figures given are for guidance only and should not be used for installation purposes.

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



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