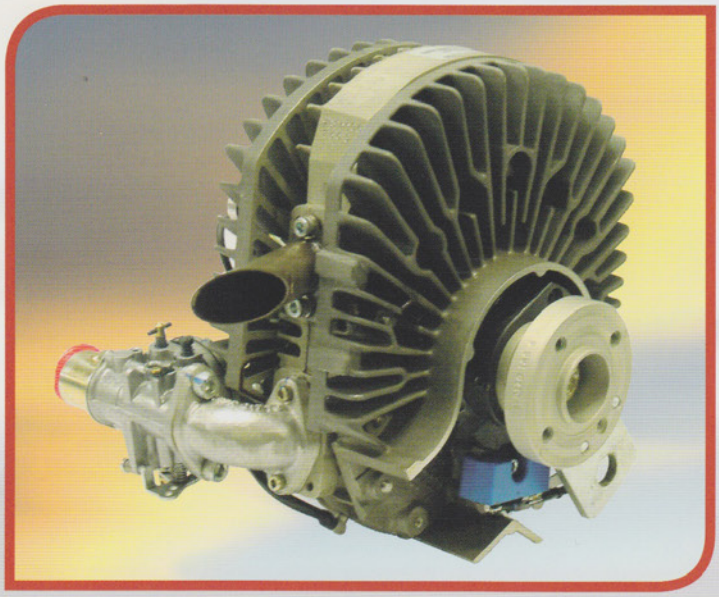
UAV ENGINES

AR731 - 38 BHP
UAV TARGET ENGINE



The AR731 has the highest power-to-weight ratio of any rotary engine in the world. It has been specifically designed and developed to be the ultimate engine for small target drones and short-life UAV's. TBO is 10 to 50 hours depending on duty cycle.

This remarkable power unit offers many advantages over previously competitive twin cylinder 2-stroke engines.

DESIGN FEATURES

- Exceptionally high power to weight ratio
- Small frontal area concentric to propeller axis
- Low fuel consumption (allowing to greater range of payload)
- Low levels of vibration
- Both tractor and pusher versions available

TECHNICAL SPECIFICATION

Engine type:	Single rotor Wankel-type engine
Capacity:	208cc chamber size
Power Output:	38bhp at 7,800rpm
Weight:	21.7lbs (9.9kg)
Specific Fuel Consumption:	0.57/lb/bhp/hr at max. power, 0.52 lb/bhp/hr at cruise
Vibration Levels:	Zero radial vibration
Ignition System:	Electronic contact-less magneto
Fuel Type:	Mogas regular grade or Avgas 100LL

NOTE

Certain design features of the engine are covered by British, U.S. and other foreign patents.

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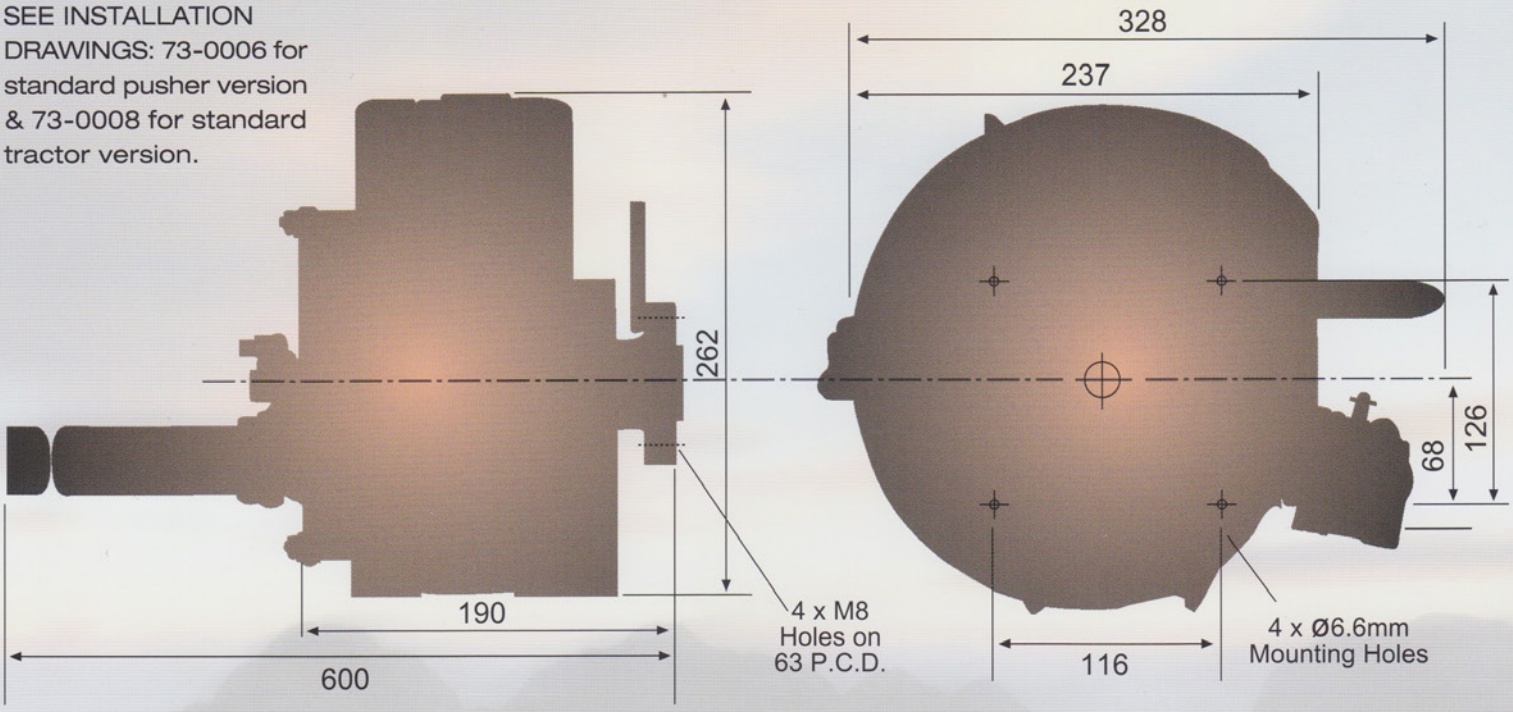
AR731 ENGINE

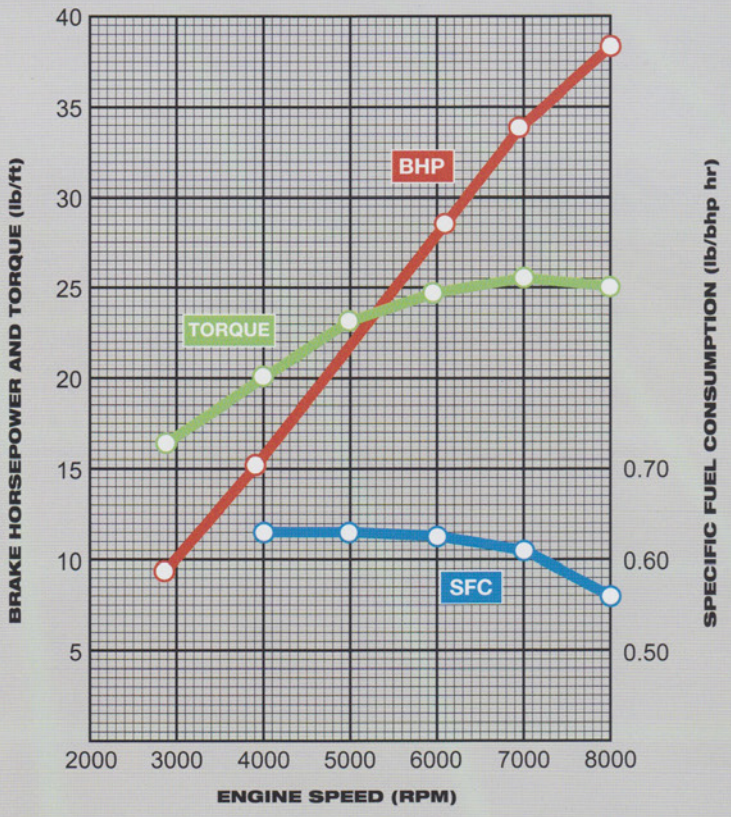
APPROX. EXTERNAL DIMENSIONS (mm)

SEE INSTALLATION DRAWINGS: 73-0006 for standard pusher version & 73-0008 for standard tractor version.



WIDE OPEN THROTTLE DYNAMOMETER PERFORMANCE DATA

Standard day
Ambient temperature = 15 °c
Ambient pressure = 760mm Mercury



PERFORMANCE UP A TYPICAL PROPELLER LOAD LINE

RPM	POWER (BHP)	% OF MAX POWER	SFC lb/bhp/hr	FUEL USAGE (galls/hour) IMP	US
8000	38.0	100	0.57	3.0	3.6
7500	31.3	82	0.55	2.4	2.8
7000	25.4	69	0.52	1.8	2.2
6500	20.4	54	0.55	1.5	1.85
6000	16.0	42	0.58	1.3	1.5
5500	12.3	32	0.63	1.06	1.3
5000	9.3	24	0.75	0.96	1.15
4500	6.8	18	0.85	0.79	0.95
4000	4.7	12	1.02	0.66	0.79

Conversion Factors:

$1kW = \frac{1}{0.745}$ bhp

1kg m = 7.23 lb ft
609 gm/kWh = 1.0 lb/bhp hr

Brake mean effective pressure (lb/in^2) = 5.96 x torque (lb ft)

4.54 Litres = 1 Imp. Gal
= 1.2 US Gal