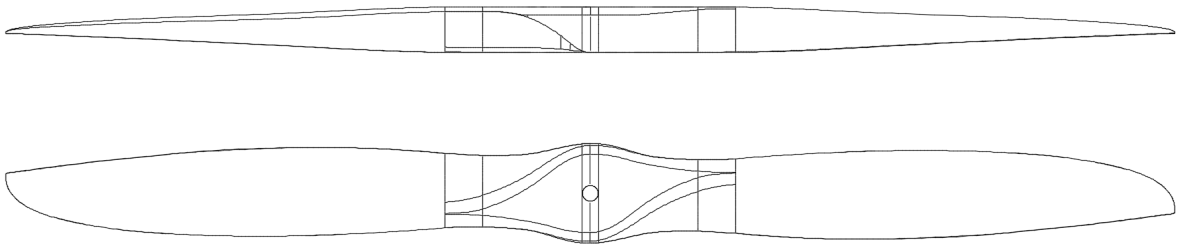
29x10 2B GAS EVO

PN:229106

Product sheet

Rev.: 00
2024-04-19



255 g
Mass

30.7 kgf
Max Thrust

29.0”
Diameter

Fixed wing

Engine type:	Gas
Folding/Fixed	Fixed
Rotational direction:	Counter-clockwise
Weight [g]:	255 $\pm$ 5.0%
Moment of inertia [kgm^2]:	1.15e-02
Center hole [mm]:	$\varnothing$ 10
Max drilling diameter [mm]:	40
Mounting:	link to possible patterns
Limit RPM (0.7 Mach at blade tip)	6200
Working temperature [°C]	from -45°C to 65°C
Materials used:	carbon fiber, glass fiber, roving, polyurethane, epoxy
Tests performed:	balancing, visual Inspection, structural integrity (ATO)

Formula used to calculate moment of inertia: $I = \frac{1}{12} \cdot mass \cdot diameter^2$

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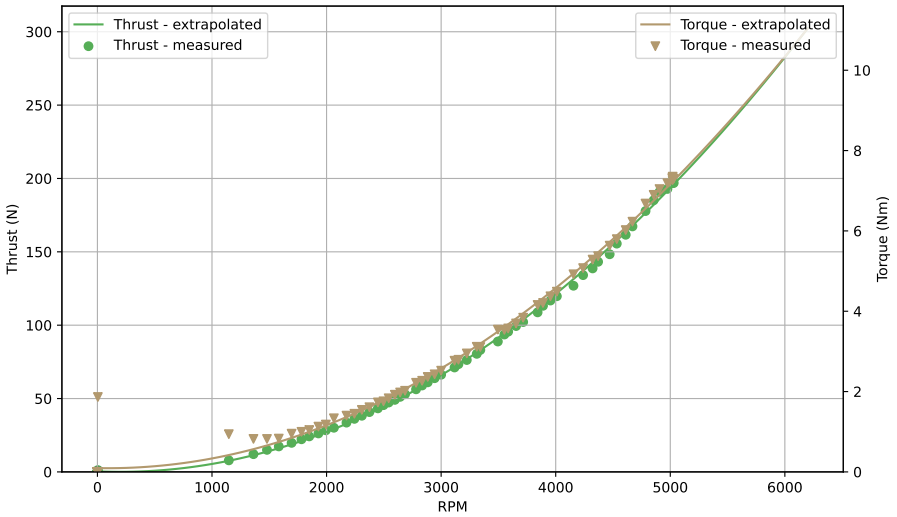
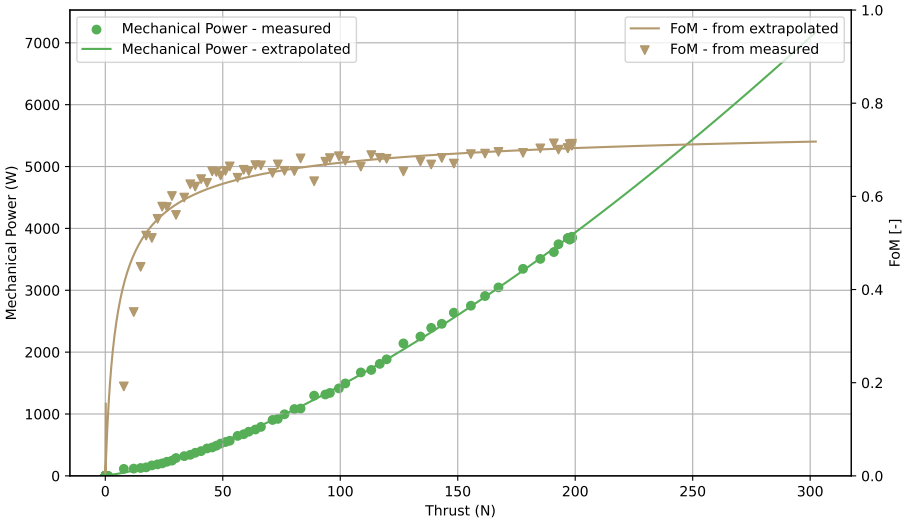
Measured data

Static test result





Thrust (RPM) $= 8.39729e-06 \cdot RPM^2 + -0.00335 \cdot RPM + 0.38684$

Torque (RPM) $= 2.9346e-07 \cdot RPM^2 + -5.3263e-05 \cdot RPM + 0.0947$

Mechanical power (RPM) $= 3.85685e-08 \cdot RPM^3 + -6.03686e-05 \cdot RPM^2 + 0.09656 \cdot RPM + -0.19686$

Formulas used to calculate FOM:

$C_T = \frac{T_0}{\rho A V_T^2}$ $C_P = \frac{P_0}{\rho A V_T^3}$ $FOM = \sqrt{\frac{2}{\pi}} \frac{C_T^{\frac{3}{2}}}{C_P}$

To get more information about manufacturing process or possibility to customize propeller reach out to info@mejzlik.eu

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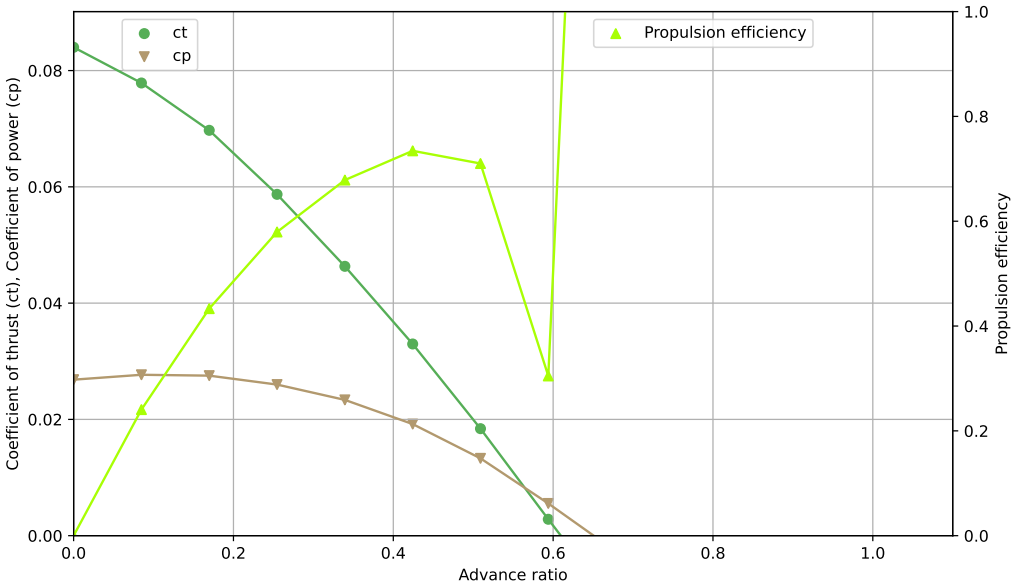
Simulated data

Dynamic simulation result - at rpm-sim



v_inf	Ct	Cp	Propulsion efficiency	Advance ratio
0.0	0.084	0.0268	0.0	0.0
5.0	0.0779	0.0277	0.2406	0.0848
10.0	0.0697	0.0275	0.4332	0.1697
15.0	0.0587	0.026	0.5795	0.2545
20.0	0.0463	0.0234	0.6785	0.3394
25.0	0.033	0.0192	0.7343	0.4242
30.0	0.0184	0.0133	0.7101	0.5091
35.0	0.0028	0.0055	0.3048	0.5939
40.0	-0.0124	-0.0027	3.1035	0.6788
45.0	-0.0249	-0.0086	2.229	0.7636
50.0	-0.0328	-0.0087	3.2138	0.8485
55.0	-0.0389	-0.008	4.5739	0.9333

Formulas for forward flight:

Propulsion efficiency: $\eta = \frac{C_T \cdot J}{C_P}$

Advance ratio: $J = \frac{v}{n \cdot D}$