

Professional Propulsion Systems

SYSTEM SPECIFICATIONS

ENGINE



Name:	F23
Manufacturer:	HIRTH ENGINES
Type:	2-cylinder
Displacement:	521 cm³
Max. performance:	36 kW at 6100 RPM
Weight:	28 kg
RPM range:	2500–6500 RPM
Running direction:	Clockwise

PROPELLER



Name:	37x22 2B CW (Direction guide)
Manufacturer:	Mejzlik
Diameter:	37 in
Pitch:	22 in
Mass:	513 g
Contact:	info@mejzlik.eu

ANALYSIS



Need expert guidance on analyzing your flight performance?

Our team provides a comprehensive analysis of RPM calculations, motor and propeller efficiency, including customized propeller selection recommendations to ensure your system achieves maximum efficiency.

Please reach out to us at info@mejzlik.eu or info@hirthengines.com

ID: **0119**



PERFORMANCE OF THE SYSTEM

Flight velocity

0 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	28	1.59	166	0
1400	55	3.1	455	0
1900	103	5.8	1154	0
2400	167	9.34	2348	0
2900	247	13.93	4229	0
3300	325	18.21	6294	0
3800	437	25.12	9996	0
4300	571	33.07	14892	0
4800	731	42.62	21423	0

Flight velocity

10 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	9	1.14	119	78
1400	33	3.12	458	73
1900	77	6.25	1244	62
2400	136	10.21	2565	53
2900	212	15.12	4591	46
3300	285	19.81	6846	42
3800	394	26.81	10669	37
4300	523	35.23	15865	33
4800	676	45.27	22756	30

PERFORMANCE OF THE SYSTEM

Flight velocity

20 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-11	-0.45	-47	—
1400	-6	-0.06	-9	—
1900	31	3.77	751	82
2400	84	8.52	2142	78
2900	154	14.04	4263	72
3300	222	19.09	6598	67
3800	324	26.49	10540	61
4300	447	35.25	15873	56
4800	592	45.58	22912	52

Flight velocity

30 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-15	-1.38	-144	—
1400	-23	-1.16	-170	—
1900	-23	-1.21	-240	—
2400	17	2.89	727	70
2900	78	9.31	2828	83
3300	140	15.11	5221	81
3800	236	23.26	9256	76
4300	351	32.61	14684	72
4800	488	43.32	21777	67

PERFORMANCE OF THE SYSTEM

Flight velocity

40 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-20	-2.92	-306	—
1400	-29	-2.74	-401	—
1900	-43	-2.29	-455	—
2400	-48	-3.26	-819	—
2900	-7	0.39	118	—
3300	46	6.8	2351	79
3800	131	15.81	6293	83
4300	237	25.99	11705	81
4800	365	37.51	18856	77

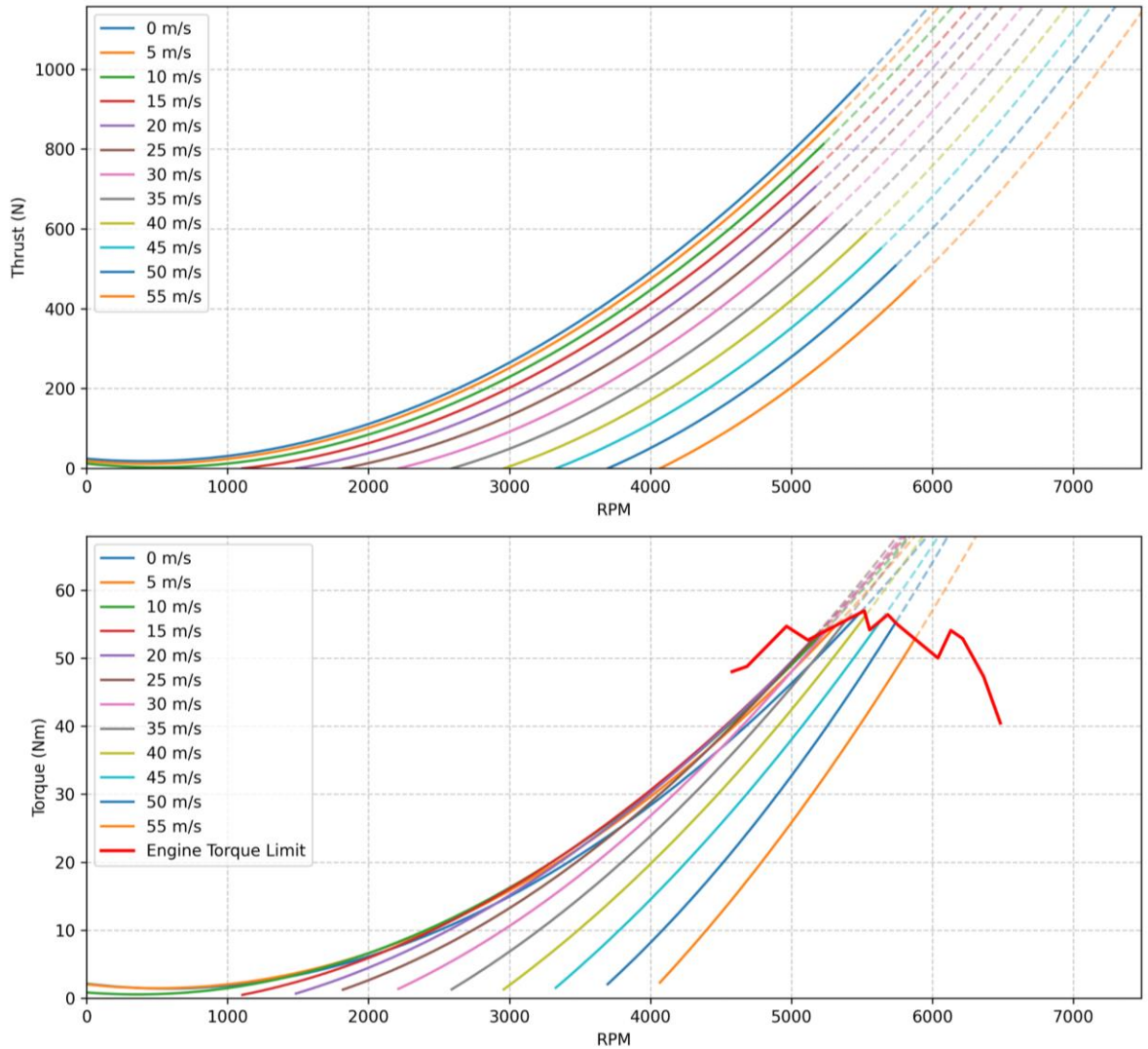
Flight velocity

50 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-25	-4.92	-516	—
1400	-36	-4.88	-715	—
1900	-52	-4.61	-917	—
2400	-69	-3.96	-995	—
2900	-80	-6.01	-1825	—
3300	-54	-4.9	-1694	—
3800	16	3.97	1579	52
4300	110	14.92	6719	82
4800	226	27.21	13675	83

PERFORMANCE OF THE SYSTEM

Hirth F23 + Mejzlik 36x16 2B Q Performance in flight



NOTE



Data presented in this product sheet are a combination of measurements of engine performance (RPM, torque), which is complemented with propeller data, simulated in Mejzlik's proprietary simulation software. The greyed out values are above engine limit.

Data is valid for 0m ISA. Propeller performance simulation accuracy can diverge at higher tip speeds (above 0.7 Mach). Propeller is structurally safe to operate below Mach 1 tip speed.

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