

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:	36x16 2B Q CW (Direction guide)
Manufacturer:	Mejzlik
Diameter:	36 in
Pitch:	16 in
Mass:	421 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

PERFORMANCE OF THE SYSTEM

Flight velocity

0 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	20	1.02	107	0
1400	41	1.96	287	0
1900	76	3.65	726	0
2400	123	5.81	1461	0
2900	180	8.67	2633	0
3400	251	12.21	4349	0
3900	334	16.52	6747	0
4400	431	21.49	9901	0
4900	556	27.51	14118	0

Flight velocity

10 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	1	0.3	31	21
1400	17	1.58	231	74
1900	48	3.58	713	67
2400	89	6.05	1521	59
2900	143	9.1	2764	52
3400	208	12.78	4551	46
3900	287	17.18	7018	41
4400	380	22.43	10333	37
4900	490	28.66	14704	33

PERFORMANCE OF THE SYSTEM

Flight velocity

20 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-10	-0.3	-31	—
1400	-15	-0.26	-38	—
1900	0	0.7	140	6
2400	35	3.64	914	77
2900	82	7.17	2177	76
3400	142	11.23	3998	71
3900	214	15.95	6514	66
4400	301	21.44	9880	61
4900	404	27.87	14298	56

Flight velocity

30 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-13	-1.22	-128	—
1400	-20	-0.95	-139	—
1900	-32	-0.85	-169	—
2400	-27	-1.06	-265	—
2900	6	1.71	519	37
3400	57	6.28	2237	77
3900	122	11.52	4707	78
4400	201	17.44	8037	75
4900	296	24.2	12418	71

PERFORMANCE OF THE SYSTEM

Flight velocity

40 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-18	-2.62	-274	—
1400	-25	-2.42	-354	—
1900	-38	-1.97	-392	—
2400	-55	-2.11	-531	—
2900	-60	-3.05	-926	—
3400	-37	-1.98	-705	—
3900	15	3.24	1321	46
4400	84	9.68	4460	76
4900	170	16.95	8697	78

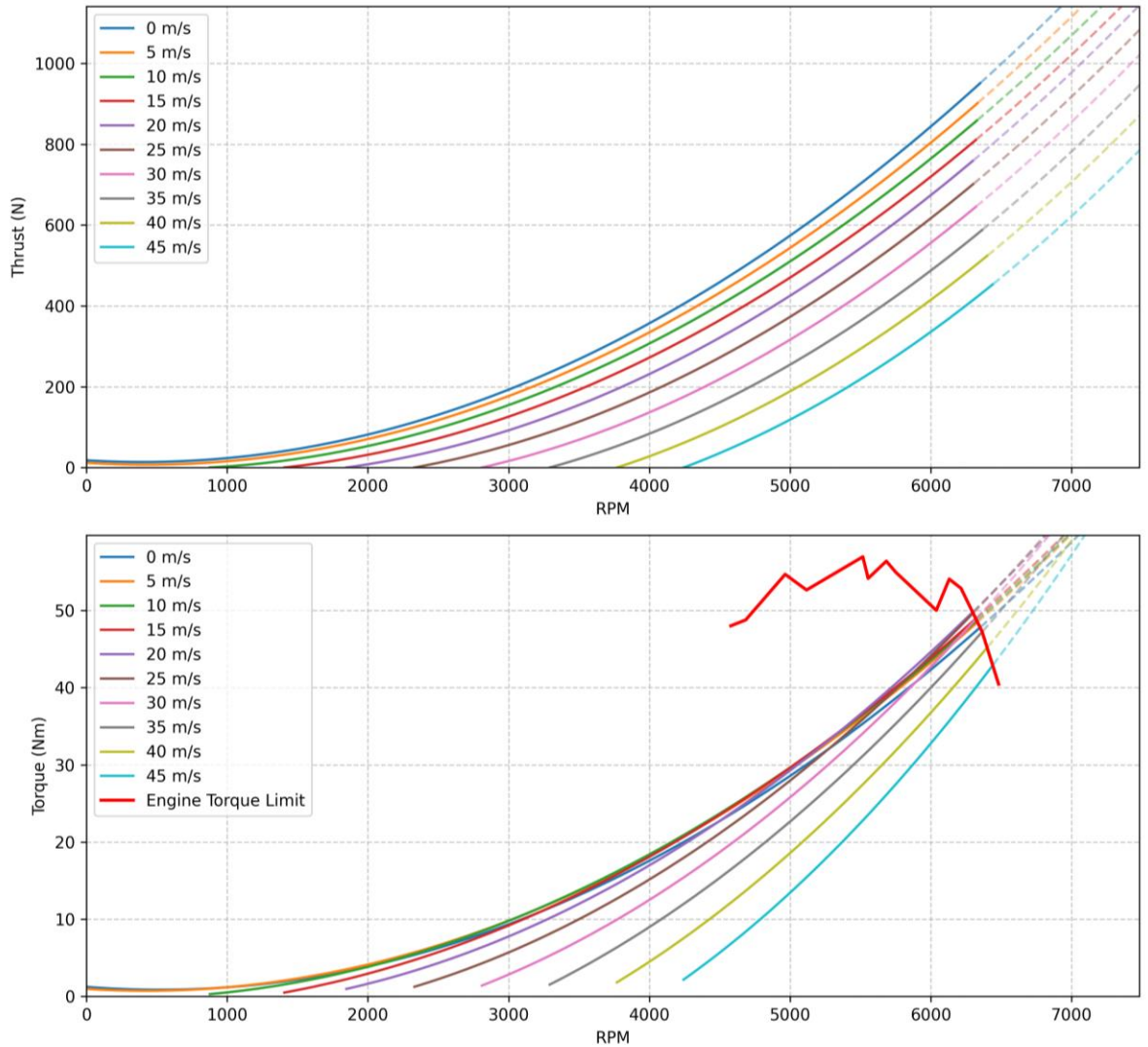
Flight velocity

50 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-23	-4.42	-463	—
1400	-31	-4.18	-613	—
1900	-45	-3.88	-773	—
2400	-62	-3.45	-867	—
2900	-85	-3.92	-1192	—
3400	-101	-6.01	-2140	—
3900	-90	-6.85	-2796	—
4400	-44	-1.87	-864	—
4900	29	5.53	2837	50

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.

ID: **0118**