

Professional Propulsion Systems

SYSTEM SPECIFICATIONS

ENGINE



Name:	4103
Manufacturer:	HIRTH ENGINES
Type:	2-cylinder
Displacement:	100 cm³
Max. performance:	5 kW at 6500 RPM
Weight:	3.4 kg
RPM range:	2500–6500 RPM
Running direction:	Clockwise

PROPELLER



Name:	25x12 2B S CCW (Direction guide)
Manufacturer:	Mejzlik
Diameter:	25 in
Pitch:	12 in
Mass:	181 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: **0123**



PERFORMANCE OF THE SYSTEM

Flight velocity

0 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	4	0.16	17	0
1700	12	0.47	83	0
2500	28	1.04	272	0
3200	49	1.78	597	0
4000	79	2.86	1196	0
4800	118	4.22	2121	0
5500	158	5.68	3270	0
5600	164	5.91	3465	0
6300	213	7.69	5075	0
7100	280	10.17	7559	0

Flight velocity

10 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-1	0.05	5	—
1700	3	0.31	56	55
2500	18	1.06	277	63
3200	37	1.91	639	57
4000	65	3.07	1287	50
4800	101	4.55	2289	44
5500	139	6.11	3519	40
5600	145	6.35	3726	39
6300	191	8.22	5423	35
7100	253	10.78	8013	32

PERFORMANCE OF THE SYSTEM

Flight velocity

20 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-2	-0.06	-6	—
1700	-4	0.12	21	—
2500	-1	0.37	96	—
3200	14	1.24	417	67
4000	39	2.58	1082	72
4800	72	4.2	2112	68
5500	108	5.89	3390	63
5600	113	6.15	3604	63
6300	157	8.13	5361	58
7100	215	10.79	8021	54

Flight velocity

30 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-4	-0.22	-23	—
1700	-6	-0.05	-8	—
2500	-9	0.24	63	—
3200	-6	0.58	194	—
4000	7	1.28	535	38
4800	34	2.87	1443	71
5500	66	4.67	2690	74
5600	72	4.95	2902	74
6300	111	7.05	4650	72
7100	166	9.85	7320	68

PERFORMANCE OF THE SYSTEM

Flight velocity

40 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-5	-0.48	-51	—
1700	-8	-0.32	-57	—
2500	-12	-0.01	-1	—
3200	-15	0.29	99	—
4000	-13	0.75	314	—
4800	-3	1.33	667	—
5500	20	2.66	1530	52
5600	24	2.91	1705	57
6300	59	4.94	3256	73
7100	109	7.88	5859	74

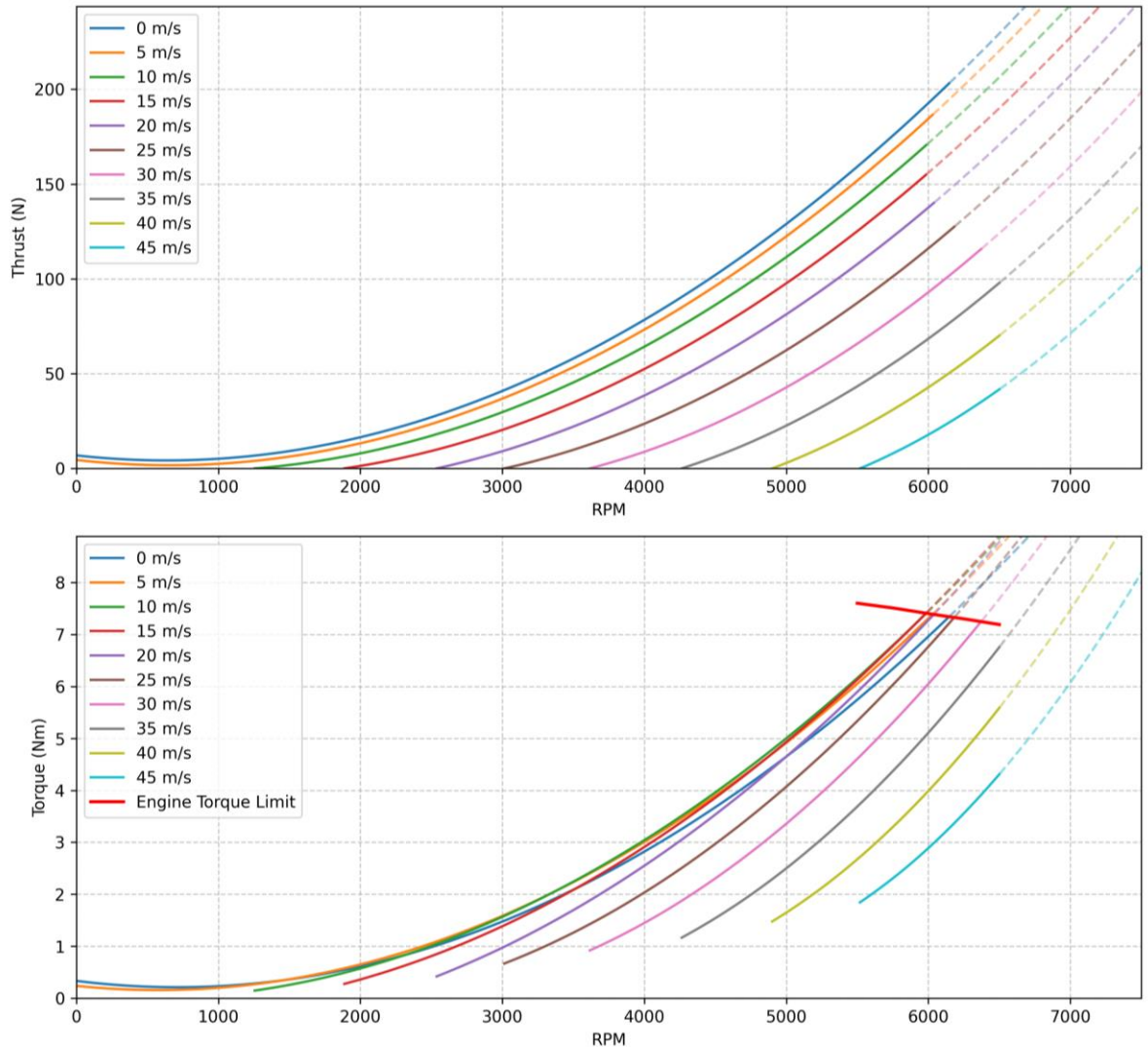
Flight velocity

50 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-7	-0.85	-89	—
1700	-10	-0.66	-117	—
2500	-14	-0.35	-90	—
3200	-19	0.04	13	—
4000	-24	0.4	166	—
4800	-23	0.99	498	—
5500	-16	1.36	785	—
5600	-14	1.41	829	—
6300	6	2.67	1760	18
7100	46	4.98	3706	61

PERFORMANCE OF THE SYSTEM

Hirth 4103 + Mejzlik 25x12 2B S 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 Mejzliks 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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