

Professional Propulsion Systems

SYSTEM SPECIFICATIONS

ENGINE



Name:	4202HF
Manufacturer:	HIRTH ENGINES
Type:	2-cylinder
Displacement:	183 cm³
Max. performance:	11 kW at 6500 RPM
Weight:	11.5 kg
RPM range:	2500–6500 RPM
Running direction:	Clockwise

PROPELLER



Name:	30x13 EVO 2B CCW (Direction guide)
Manufacturer:	Mejzlik
Diameter:	30 in
Pitch:	13 in
Mass:	295 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

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PERFORMANCE OF THE SYSTEM

Flight velocity

0 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	60	2.40	629	0
2750	73	2.95	850	0
3000	88	3.53	1110	0
3250	103	4.11	1398	0
3500	119	4.83	1772	0
3750	137	5.66	2223	0
4000	159	6.32	2649	0
4250	180	7.32	3258	0
4500	202	8.28	3903	0
4750	227	9.35	4652	0
5000	254	10.42	5454	0
5250	281	11.63	6394	0
5500	312	12.80	7374	0
5750	347	14.38	8660	0
6000	378	15.91	9994	0
6250	409	17.56	11495	0
6500	452	19.18	13052	0

Flight velocity

10 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	41	2.47	645	63
2750	53	3.08	886	60
3000	67	3.72	1170	57
3250	81	4.42	1503	54
3500	97	5.17	1894	51
3750	115	5.98	2347	49
4000	133	6.85	2870	47
4250	154	7.79	3465	44
4500	175	8.79	4144	42
4750	198	9.87	4912	40
5000	223	11.03	5778	39
5250	250	12.28	6750	37
5500	278	13.62	7843	35
5750	308	15.05	9063	34
6000	341	16.59	10422	33
6250	375	18.24	11935	31
6500	412	20.03	13631	30

PERFORMANCE OF THE SYSTEM

Flight velocity

20 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	5	0.77	201	53
2750	16	1.51	436	73
3000	28	2.29	719	77
3250	41	3.12	1062	77
3500	55	4.00	1465	76
3750	71	4.91	1929	74
4000	89	5.87	2458	72
4250	107	6.87	3055	70
4500	127	7.92	3733	68
4750	149	9.06	4504	66
5000	173	10.32	5402	64
5250	199	11.65	6406	62
5500	226	13.05	7518	60
5750	255	14.56	8766	58
6000	286	16.16	10153	56
6250	319	17.85	11682	55
6500	353	19.64	13370	53

Flight velocity

30 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-22	-0.49	-129	—
2750	-21	-0.82	-236	—
3000	-17	-0.69	-218	—
3250	-8	0.03	12	—
3500	4	0.99	364	31
3750	18	2.04	801	67
4000	33	3.17	1327	75
4250	50	4.36	1942	78
4500	69	5.59	2636	78
4750	89	6.87	3420	78
5000	110	8.22	4304	77
5250	133	9.63	5294	76
5500	158	11.11	6397	74
5750	185	12.66	7622	73
6000	213	14.30	8985	71
6250	243	16.05	10502	69
6500	276	17.89	12180	68

PERFORMANCE OF THE SYSTEM

Flight velocity

40 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-31	-0.79	-207	—
2750	-34	-0.71	-204	—
3000	-36	-0.81	-255	—
3250	-41	-1.76	-598	—
3500	-40	-1.95	-715	—
3750	-33	-1.51	-592	—
4000	-28	-1.32	-553	—
4250	-15	-0.17	-76	—
4500	1	1.11	525	4
4750	18	2.50	1245	57
5000	37	3.99	2087	71
5250	58	5.54	3046	76
5500	80	7.17	4128	78
5750	105	8.86	5337	78
6000	131	10.64	6687	78
6250	159	12.50	8181	78
6500	189	14.45	9834	77

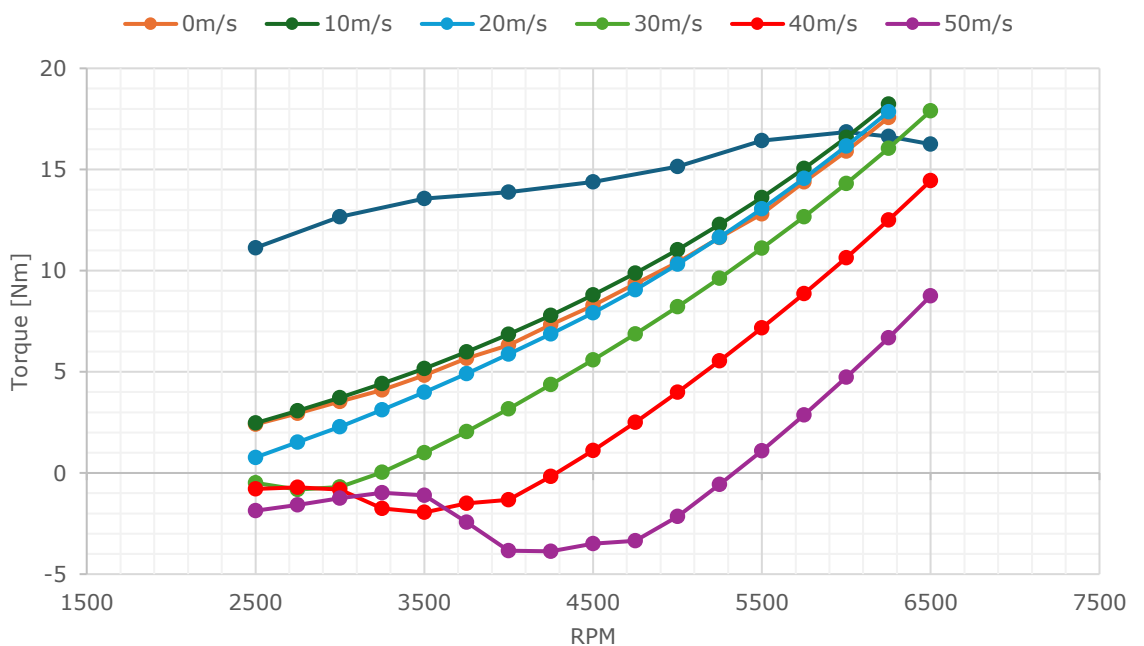
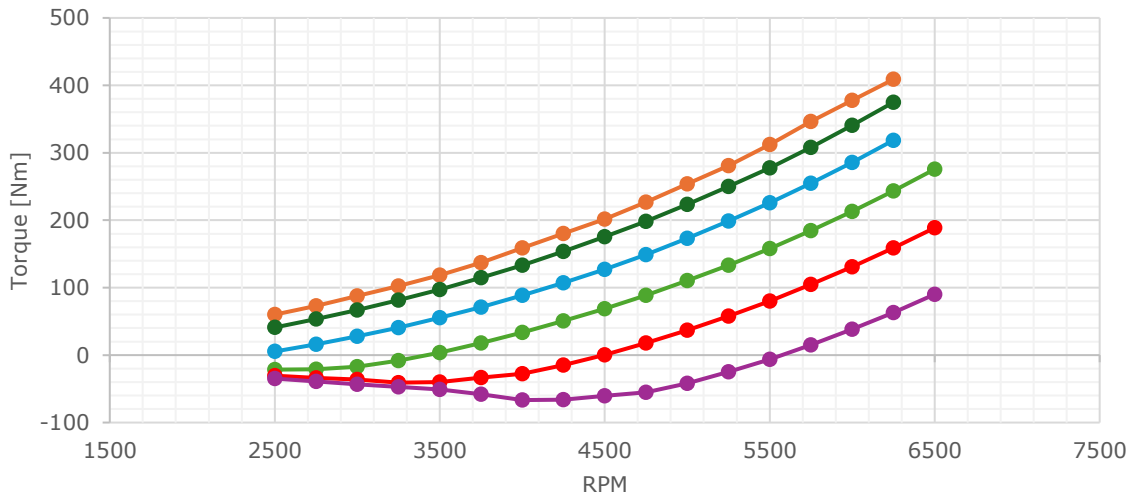
Flight velocity

50 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-35	-1.87	-489	—
2750	-39	-1.58	-456	—
3000	-43	-1.25	-394	—
3250	-47	-0.98	-333	—
3500	-51	-1.10	-404	—
3750	-58	-2.43	-954	—
4000	-67	-3.83	-1606	—
4250	-66	-3.87	-1723	—
4500	-61	-3.50	-1647	—
4750	-55	-3.35	-1665	—
5000	-42	-2.15	-1124	—
5250	-25	-0.56	-310	—
5500	-6	1.10	633	—
5750	15	2.86	1724	44
6000	38	4.73	2971	64
6250	63	6.68	4373	72
6500	90	8.75	5958	76

PERFORMANCE OF THE SYSTEM

Hirth 42 series + Mejlík 30x13 EVO 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 Mejlík'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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