

# Professional Propulsion Systems

## SYSTEM SPECIFICATIONS

### ENGINE



Name:	<b>4103</b>
Manufacturer:	<b>HIRTH ENGINES</b>
Type:	<b>2-cylinder</b>
Displacement:	<b>100 cm<sup>3</sup></b>
Max. performance:	<b>5 kW at 6500 RPM</b>
Weight:	<b>3.4 kg</b>
RPM range:	<b>2500–6500 RPM</b>
Running direction:	<b>Clockwise</b>

### PROPELLER



Name:	<b>26x12 2B CCW (Direction guide)</b>
Manufacturer:	<b>Mejzlik</b>
Diameter:	<b>26 in</b>
Pitch:	<b>12 in</b>
Mass:	<b>197 g</b>
Contact:	<b>info@mejzlik.eu</b>

### 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](mailto:info@mejzlik.eu) or [info@hirthengines.com](mailto: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 [%]
1000	5	0.19	<b>19</b>	<b>0</b>
1700	14	0.54	<b>97</b>	<b>0</b>
2400	29	1.09	<b>274</b>	<b>0</b>
3100	51	1.91	<b>619</b>	<b>0</b>
3900	83	3.04	<b>1243</b>	<b>0</b>
4600	116	4.32	<b>2083</b>	<b>0</b>
5300	159	5.89	<b>3268</b>	<b>0</b>
5400	166	6.17	<b>3491</b>	<b>0</b>
6000	208	7.78	<b>4886</b>	<b>0</b>
6800	274	10.52	<b>7493</b>	<b>0</b>

Flight velocity

**10 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-2	0.02	<b>2</b>	—
1700	4	0.38	<b>68</b>	<b>58</b>
2400	18	1.10	<b>278</b>	<b>64</b>
3100	38	2.03	<b>659</b>	<b>58</b>
3900	68	3.33	<b>1360</b>	<b>50</b>
4600	102	4.72	<b>2274</b>	<b>45</b>
5300	142	6.40	<b>3552</b>	<b>40</b>
5400	149	6.66	<b>3769</b>	<b>39</b>
6000	190	8.41	<b>5286</b>	<b>36</b>
6800	254	11.16	<b>7949</b>	<b>32</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**20 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-3	-0.13	<b>-14</b>	—
1700	-6	0.01	<b>2</b>	—
2400	-3	0.25	<b>64</b>	—
3100	13	1.24	<b>401</b>	<b>64</b>
3900	39	2.70	<b>1103</b>	<b>71</b>
4600	70	4.23	<b>2038</b>	<b>69</b>
5300	108	6.06	<b>3362</b>	<b>64</b>
5400	114	6.34	<b>3585</b>	<b>63</b>
6000	153	8.18	<b>5139</b>	<b>59</b>
6800	214	11.03	<b>7855</b>	<b>55</b>

Flight velocity

**30 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-4	-0.41	<b>-43</b>	—
1700	-8	-0.24	<b>-44</b>	—
2400	-12	-0.03	<b>-8</b>	—
3100	-10	0.30	<b>97</b>	—
3900	3	1.09	<b>443</b>	<b>23</b>
4600	29	2.71	<b>1305</b>	<b>66</b>
5300	62	4.64	<b>2574</b>	<b>72</b>
5400	67	4.94	<b>2794</b>	<b>72</b>
6000	103	6.88	<b>4322</b>	<b>71</b>
6800	160	9.85	<b>7018</b>	<b>68</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**40 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-6	-0.80	<b>-84</b>	—
1700	-10	-0.68	<b>-121</b>	—
2400	-15	-0.50	<b>-126</b>	—
3100	-22	-0.21	<b>-69</b>	—
3900	-20	0.37	<b>150</b>	—
4600	-12	0.70	<b>335</b>	—
5300	11	2.17	<b>1207</b>	<b>35</b>
5400	15	2.48	<b>1402</b>	<b>43</b>
6000	46	4.50	<b>2827</b>	<b>64</b>
6800	97	7.61	<b>5419</b>	<b>71</b>

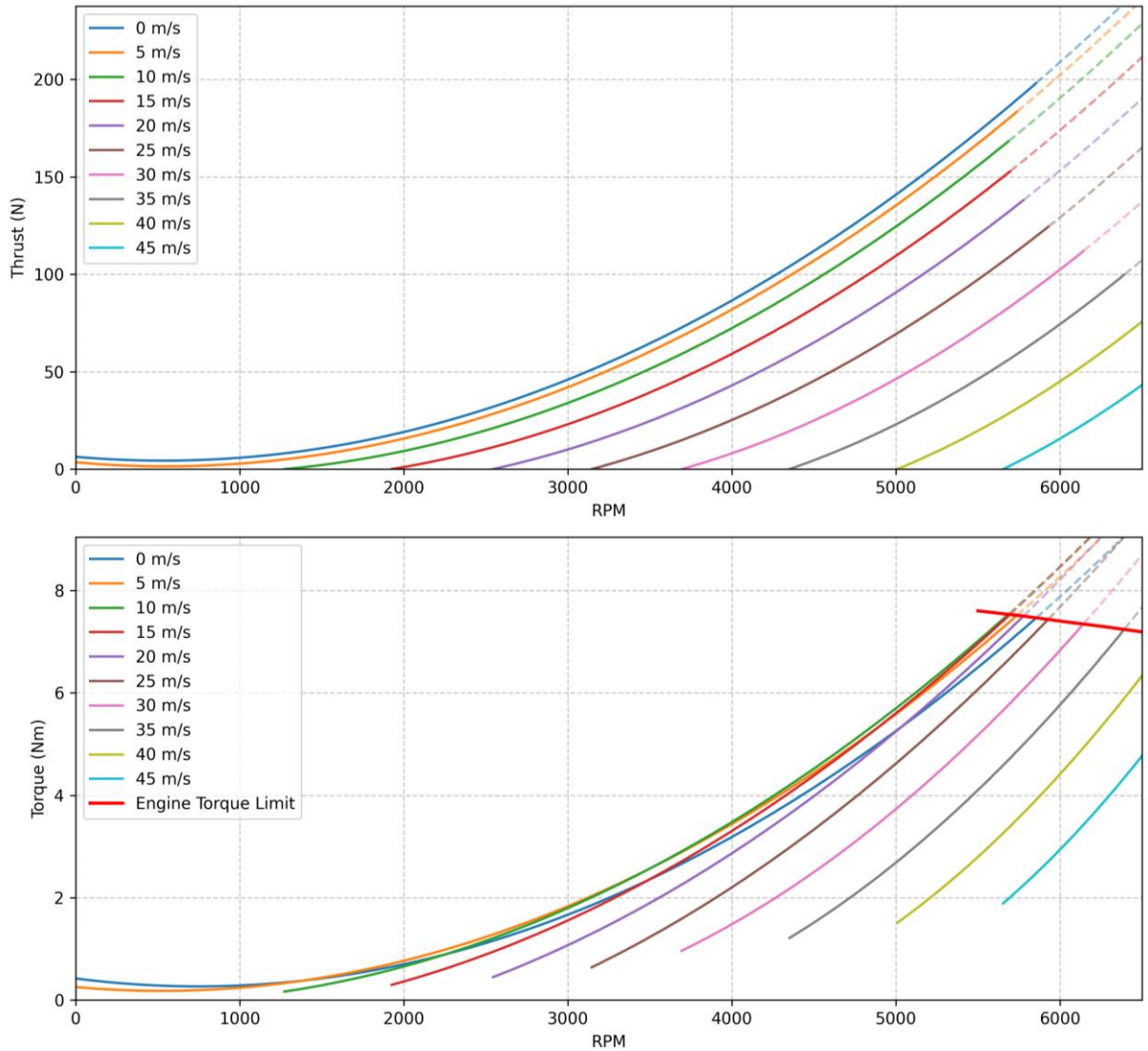
Flight velocity

**50 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-8	-1.40	<b>-147</b>	—
1700	-13	-1.31	<b>-233</b>	—
2400	-18	-1.16	<b>-292</b>	—
3100	-25	-0.84	<b>-273</b>	—
3900	-34	-0.28	<b>-114</b>	—
4600	-34	0.30	<b>146</b>	—
5300	-27	0.73	<b>406</b>	—
5400	-26	0.81	<b>457</b>	—
6000	-12	1.51	<b>949</b>	—
6800	28	4.26	<b>3033</b>	<b>46</b>

# PERFORMANCE OF THE SYSTEM

## Hirth 4103 + Mejzlik 26x12 2B 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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