

# Professional Propulsion Systems

## SYSTEM SPECIFICATIONS

### ENGINE



Name:	<b>4201</b>
Manufacturer:	<b>HIRTH ENGINES</b>
Type:	<b>2-cylinder, two stroke</b>
Displacement:	<b>183 cm<sup>3</sup></b>
Max. performance:	<b>11 kW at 6500 RPM</b>
Weight:	<b>5.7 kg</b>
RPM range:	<b>1800–6500 RPM</b>
Running direction:	<b>Clockwise</b>

### PROPELLER



Name:	<b>29x13.5 2B Q CCW and CW (Direction guide)</b>
Manufacturer:	<b>Mejzlik</b>
Diameter:	<b>29 in</b>
Pitch:	<b>13.5 in</b>
Mass:	<b>285 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	9	0.36	<b>37</b>	<b>0</b>
1600	22	0.91	<b>152</b>	<b>0</b>
2200	43	1.72	<b>395</b>	<b>0</b>
2900	77	3.01	<b>914</b>	<b>0</b>
3500	113	4.44	<b>1629</b>	<b>0</b>
4100	158	6.16	<b>2645</b>	<b>0</b>
4800	220	8.73	<b>4387</b>	<b>0</b>
5400	283	11.23	<b>6349</b>	<b>0</b>
6100	367	14.96	<b>9559</b>	<b>0</b>

Flight velocity

**10 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-3	-0.02	<b>-2</b>	<b>—</b>
1600	7	0.63	<b>106</b>	<b>70</b>
2200	25	1.61	<b>370</b>	<b>68</b>
2900	54	3.05	<b>926</b>	<b>59</b>
3500	87	4.60	<b>1685</b>	<b>52</b>
4100	128	6.47	<b>2777</b>	<b>46</b>
4800	186	9.09	<b>4570</b>	<b>41</b>
5400	245	11.78	<b>6662</b>	<b>37</b>
6100	326	15.52	<b>9916</b>	<b>33</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**20 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-5	-0.26	<b>-28</b>	—
1600	-9	-0.02	<b>-4</b>	—
2200	-6	0.13	<b>30</b>	—
2900	18	1.67	<b>508</b>	<b>72</b>
3500	47	3.45	<b>1263</b>	<b>74</b>
4100	84	5.50	<b>2361</b>	<b>71</b>
4800	136	8.30	<b>4170</b>	<b>65</b>
5400	191	11.10	<b>6278</b>	<b>61</b>
6100	267	14.94	<b>9542</b>	<b>56</b>

Flight velocity

**30 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-8	-0.79	<b>-83</b>	—
1600	-13	-0.56	<b>-94</b>	—
2200	-19	-0.20	<b>-47</b>	—
2900	-23	-0.41	<b>-124</b>	—
3500	-4	0.54	<b>197</b>	—
4100	27	2.72	<b>1169</b>	<b>69</b>
4800	74	5.81	<b>2920</b>	<b>76</b>
5400	123	8.82	<b>4988</b>	<b>74</b>
6100	193	12.86	<b>8216</b>	<b>71</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**40 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-10	-1.50	<b>-158</b>	—
1600	-16	-1.33	<b>-223</b>	—
2200	-24	-1.09	<b>-251</b>	—
2900	-36	-0.78	<b>-238</b>	—
3500	-45	-1.27	<b>-464</b>	—
4100	-35	-1.17	<b>-500</b>	—
4800	1	1.33	<b>671</b>	<b>8</b>
5400	44	4.54	<b>2568</b>	<b>69</b>
6100	107	8.85	<b>5651</b>	<b>76</b>

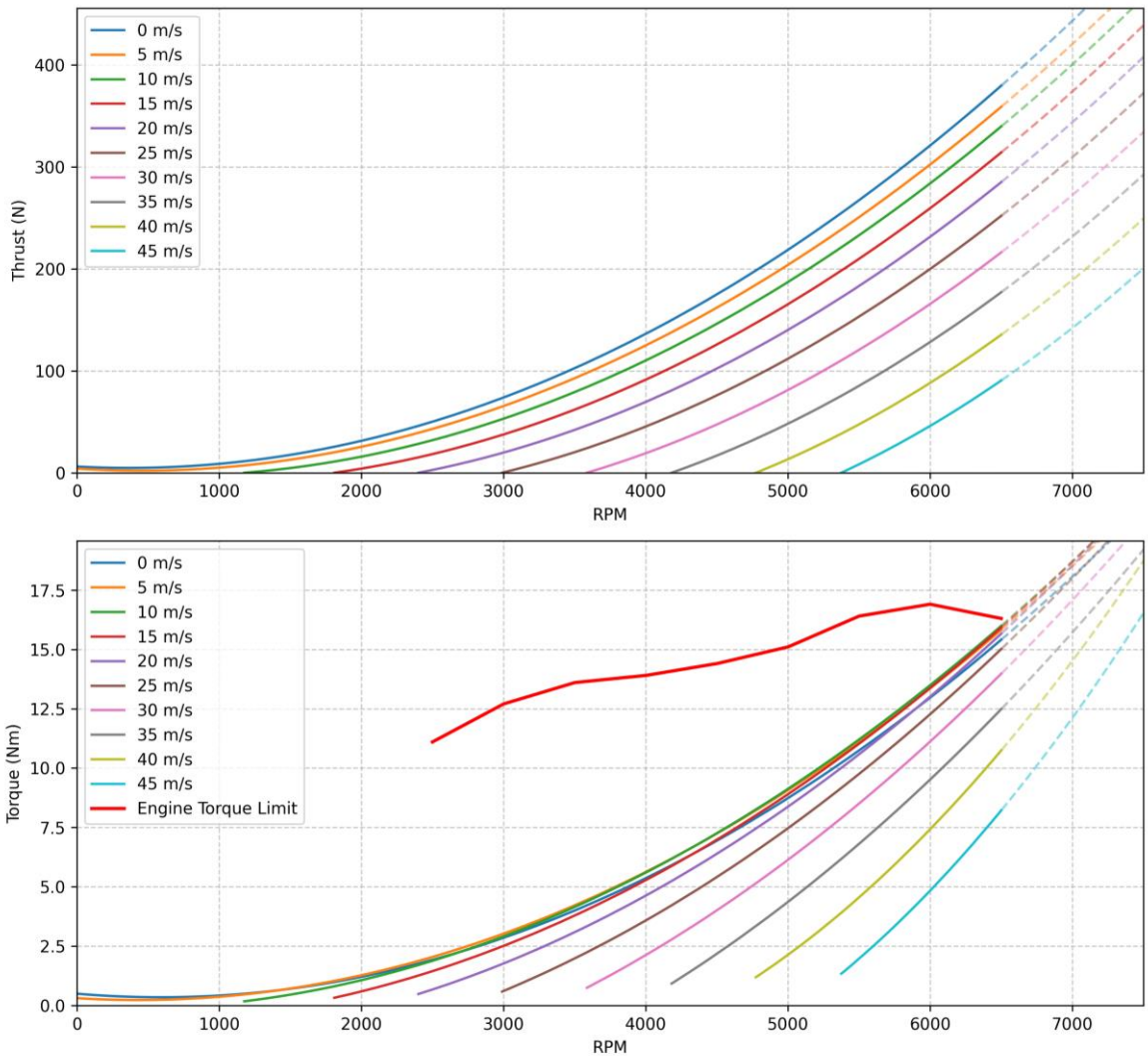
Flight velocity

**50 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-13	-2.48	<b>-260</b>	—
1600	-20	-2.34	<b>-392</b>	—
2200	-28	-2.27	<b>-522</b>	—
2900	-42	-1.95	<b>-594</b>	—
3500	-56	-1.64	<b>-600</b>	—
4100	-71	-2.70	<b>-1157</b>	—
4800	-70	-2.80	<b>-1409</b>	—
5400	-42	-1.52	<b>-858</b>	—
6100	11	2.65	<b>1694</b>	<b>31</b>

# PERFORMANCE OF THE SYSTEM

## Hirth 4201 + Mejzlik 29x13.5 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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