

# 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>29x12 3B</b>
Manufacturer:	<b>Mezlik</b>
Diameter:	<b>29 in</b>
Pitch:	<b>12 in</b>
Mass:	<b>342 g</b>
Contact:	<b>info@mezlik.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@mezlik.eu](mailto:info@mezlik.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	0.41	<b>42</b>	<b>0</b>
1600	23	1.05	<b>177</b>	<b>0</b>
2200	47	2.12	<b>489</b>	<b>0</b>
2900	85	3.72	<b>1130</b>	<b>0</b>
3500	129	5.53	<b>2026</b>	<b>0</b>
4100	179	7.70	<b>3306</b>	<b>0</b>
4800	249	10.78	<b>5416</b>	<b>0</b>
5400	320	14.04	<b>7939</b>	<b>0</b>
6100	424	18.63	<b>11901</b>	<b>0</b>

Flight velocity

**10 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-2	0.21	<b>22</b>	—
1600	6	0.78	<b>130</b>	<b>49</b>
2200	28	2.04	<b>469</b>	<b>61</b>
2900	65	3.92	<b>1190</b>	<b>54</b>
3500	105	5.92	<b>2168</b>	<b>48</b>
4100	155	8.33	<b>3576</b>	<b>43</b>
4800	226	11.73	<b>5896</b>	<b>38</b>
5400	298	15.17	<b>8577</b>	<b>35</b>
6100	396	19.91	<b>12721</b>	<b>31</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**20 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1700	-7	0.60	<b>108</b>	—
2200	-1	1.17	<b>270</b>	—
2800	17	2.28	<b>669</b>	<b>50</b>
3300	44	3.87	<b>1336</b>	<b>66</b>
3900	86	6.28	<b>2566</b>	<b>67</b>
4400	128	8.62	<b>3973</b>	<b>64</b>
4800	167	10.72	<b>5390</b>	<b>62</b>
5000	188	11.85	<b>6206</b>	<b>60</b>
5500	246	14.93	<b>8599</b>	<b>57</b>
6100	326	19.18	<b>12254</b>	<b>53</b>

Flight velocity

**30 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2600	-14	1.37	<b>374</b>	—
3000	-9	1.96	<b>616</b>	—
3400	1	2.64	<b>941</b>	<b>4</b>
3900	23	4.00	<b>1632</b>	<b>43</b>
4300	50	5.62	<b>2532</b>	<b>59</b>
4700	83	7.61	<b>3745</b>	<b>67</b>
4800	93	8.17	<b>4105</b>	<b>68</b>
5200	132	10.50	<b>5719</b>	<b>69</b>
5600	177	13.13	<b>7702</b>	<b>69</b>
6100	239	16.79	<b>10723</b>	<b>67</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**40 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
3400	-25	2.32	<b>826</b>	—
3800	-19	3.09	<b>1230</b>	—
4100	-11	3.78	<b>1624</b>	—
4400	-1	4.47	<b>2058</b>	—
4700	12	5.19	<b>2552</b>	<b>19</b>
4800	18	5.56	<b>2794</b>	<b>26</b>
5100	37	6.65	<b>3550</b>	<b>41</b>
5400	61	8.11	<b>4586</b>	<b>53</b>
5700	91	10.01	<b>5974</b>	<b>61</b>
6100	137	12.76	<b>8149</b>	<b>67</b>

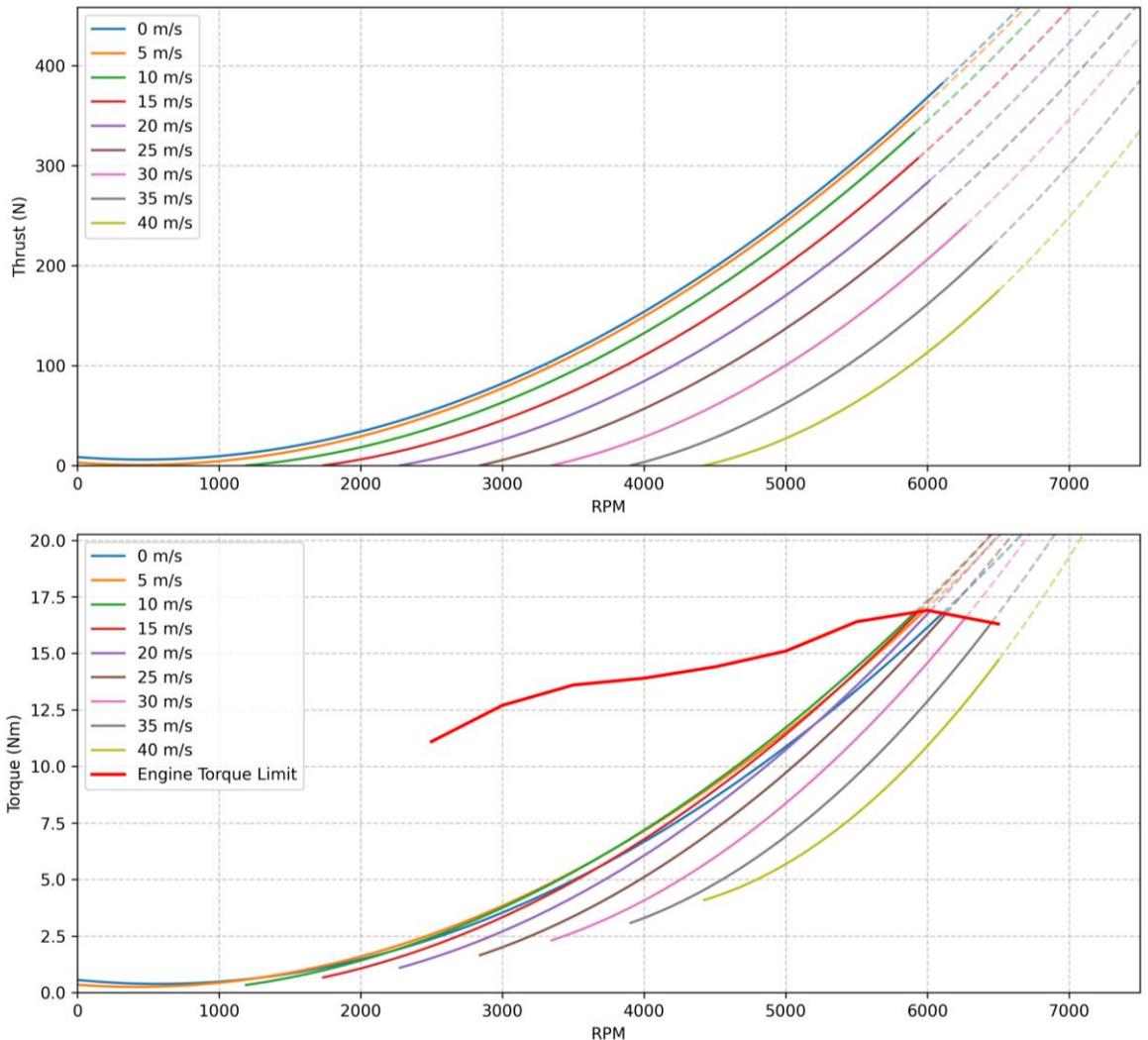
Flight velocity

**50 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
4300	-38	3.86	<b>1736</b>	—
4500	-36	4.33	<b>2039</b>	—
4700	-32	4.71	<b>2319</b>	—
4800	-30	4.95	<b>2487</b>	—
5000	-24	5.51	<b>2884</b>	—
5200	-17	6.02	<b>3276</b>	—
5400	-8	6.59	<b>3724</b>	—
5600	2	7.16	<b>4197</b>	<b>2</b>
5800	14	7.90	<b>4797</b>	<b>15</b>
6100	37	9.28	<b>5931</b>	<b>31</b>

# PERFORMANCE OF THE SYSTEM

## Hirth 4201 + Mejzlik 29x12 3B 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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