

# Professional Propulsion Systems

## SYSTEM SPECIFICATIONS

### ENGINE



Name:	<b>305 HS</b>
Manufacturer:	<b>ZANZOTTERA ENGINES</b>
Type:	<b>2-cylinder boxer</b>
Displacement:	<b>312 cm<sup>3</sup></b>
Max. performance:	<b>29.7 HP at 7000 RPM</b>
Weight:	<b>13 Kg</b>
Max RPM:	<b>7000 RPM</b>
Running direction:	<b>Clockwise</b>

### PROPELLER



Name:	<b>31x12 3B CW and CCW (Direction guide)</b>
Manufacturer:	<b>Mejzlik</b>
Diameter:	<b>31 in</b>
Pitch:	<b>12 in</b>
Mass:	<b>412 g</b>
Contact:	<a href="mailto:info@mejzlik.eu">info@mejzlik.eu</a>

### 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 [idanbi@zanzotteraengines.com](mailto:idanbi@zanzotteraengines.com)

# PERFORMANCE OF THE SYSTEM

Flight velocity

**0 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	12	0.56	<b>59</b>	<b>0</b>
1500	27	1.28	<b>201</b>	<b>0</b>
2100	57	2.6	<b>572</b>	<b>0</b>
2700	101	4.68	<b>1324</b>	<b>0</b>
3300	153	7.01	<b>2422</b>	<b>0</b>
3900	219	10.22	<b>4173</b>	<b>0</b>
4500	298	13.73	<b>6468</b>	<b>0</b>
5100	393	18.43	<b>9846</b>	<b>0</b>
5700	504	23.51	<b>14032</b>	<b>0</b>

Flight velocity

**10 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-2	0.22	<b>23</b>	—
1500	7	0.81	<b>127</b>	<b>55</b>
2100	34	2.46	<b>541</b>	<b>62</b>
2700	74	4.68	<b>1323</b>	<b>56</b>
3300	125	7.33	<b>2533</b>	<b>49</b>
3900	188	10.59	<b>4326</b>	<b>44</b>
4500	264	14.45	<b>6808</b>	<b>39</b>
5100	356	19.01	<b>10154</b>	<b>35</b>
5700	461	24.37	<b>14548</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	-7	0.01	<b>1</b>	—
1500	-10	0.37	<b>58</b>	—
2100	-5	0.38	<b>83</b>	—
2700	25	2.62	<b>741</b>	<b>68</b>
3300	68	5.52	<b>1909</b>	<b>72</b>
3900	124	8.93	<b>3645</b>	<b>68</b>
4500	193	12.93	<b>6092</b>	<b>63</b>
5100	276	17.61	<b>9404</b>	<b>59</b>
5700	373	23.08	<b>13775</b>	<b>54</b>

Flight velocity

**30 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-9	-0.48	<b>-50</b>	—
1500	-14	0.06	<b>9</b>	—
2100	-20	0.62	<b>136</b>	—
2700	-16	1.05	<b>296</b>	—
3300	1	1.32	<b>456</b>	<b>6</b>
3900	48	5.04	<b>2059</b>	<b>71</b>
4500	109	9.32	<b>4390</b>	<b>75</b>
5100	184	14.22	<b>7592</b>	<b>73</b>
5700	274	19.91	<b>11884</b>	<b>69</b>

# PERFORMANCE OF THE SYSTEM

Flight velocity

**40 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-12	-1.08	<b>-113</b>	—
1500	-17	-0.61	<b>-96</b>	—
2100	-25	0.18	<b>39</b>	—
2700	-35	0.67	<b>188</b>	—
3300	-33	1.6	<b>552</b>	—
3900	-35	-0.82	<b>-336</b>	—
4500	12	2.96	<b>1393</b>	<b>35</b>
5100	78	8.23	<b>4395</b>	<b>71</b>
5700	159	14.13	<b>8434</b>	<b>75</b>

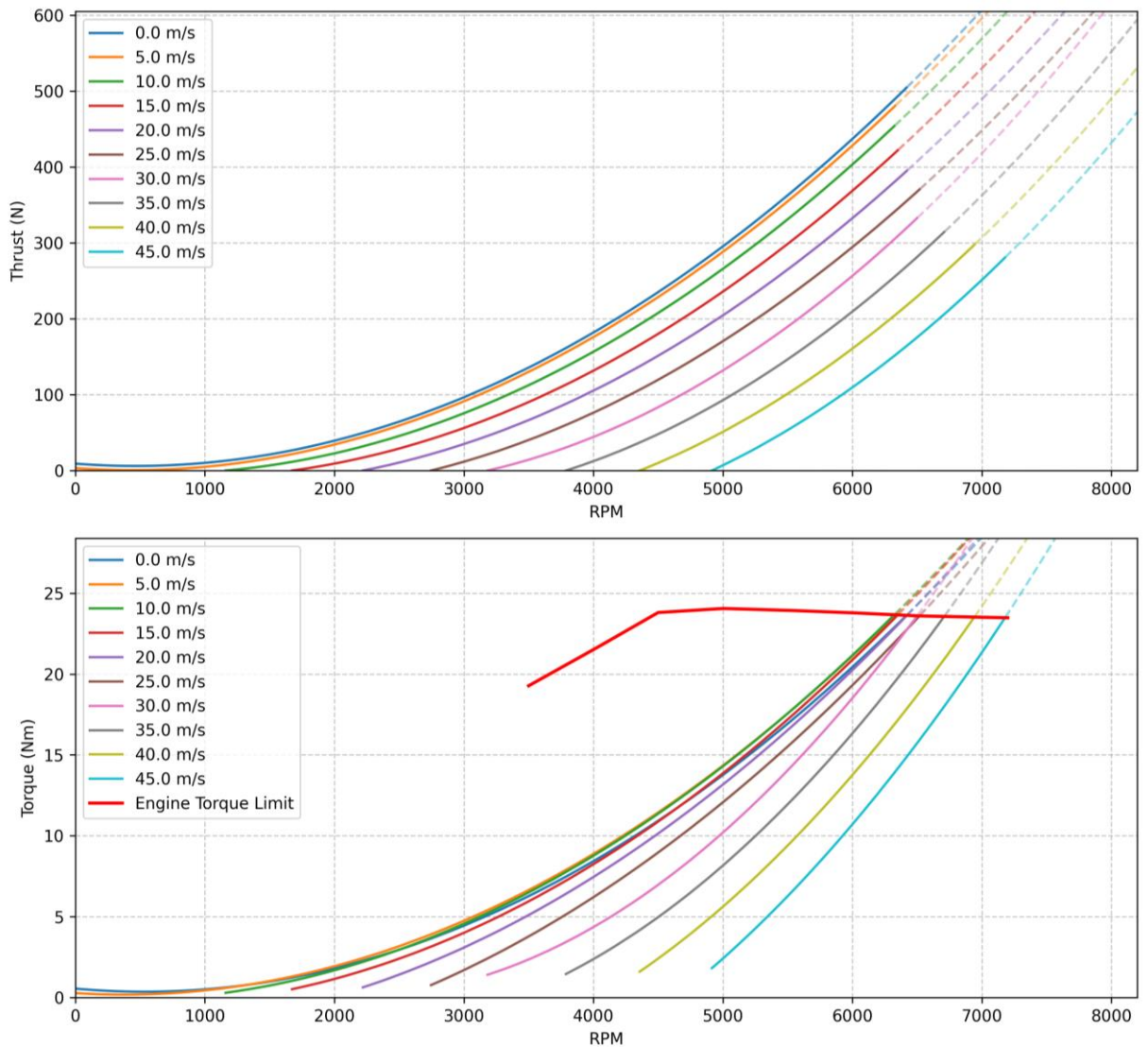
Flight velocity

**50 m/s**

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
1000	-16	-1.99	<b>-208</b>	—
1500	-21	-1.54	<b>-242</b>	—
2100	-31	-0.97	<b>-214</b>	—
2700	-45	-0.43	<b>-122</b>	—
3300	-58	0.32	<b>111</b>	—
3900	-66	0.11	<b>46</b>	—
4500	-76	-2.77	<b>-1306</b>	—
5100	-40	-0.88	<b>-472</b>	—
5700	29	5.35	<b>3195</b>	<b>46</b>

# PERFORMANCE OF THE SYSTEM

## 305HS + Mejlík 31x12 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 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.

ID: **0164**