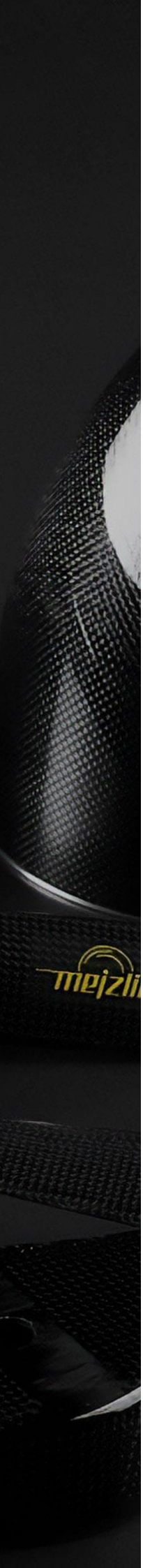


# Professional Propulsion Systems

## 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: | **31x12 EVO LF 2B CCW and CW (Direction guide)** |
| Manufacturer: | **Mejzlik** |
| Diameter: | **31 in** |
| Pitch: | **12 in** |
| Mass: | **252 g** |
| Contact: | **info@mejzlik.eu** |

### ANALYSIS

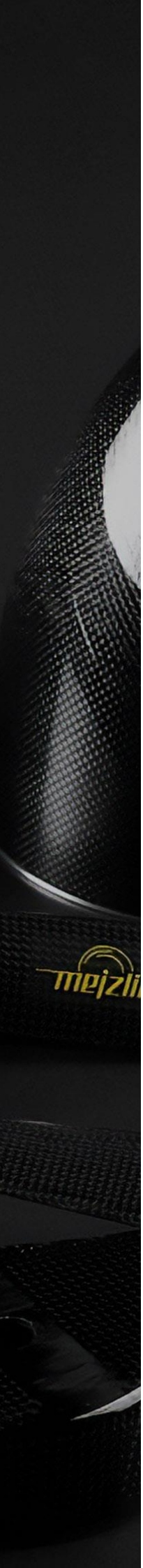
Need expert guidance on analyzing your flight performance?
Our team provides a comprehensive analysis of RPM calculations, motor and propeller efficiency, including customized propeller selection recommendations to ensure your system achieves maximum efficiency.

Please reach out to us at **info@mejzlik.eu** or **info@hirthengines.com**

**ID:** **0099**

HIRTH ENGINES

mejzlik



# PERFORMANCE OF THE SYSTEM

**Flight velocity**

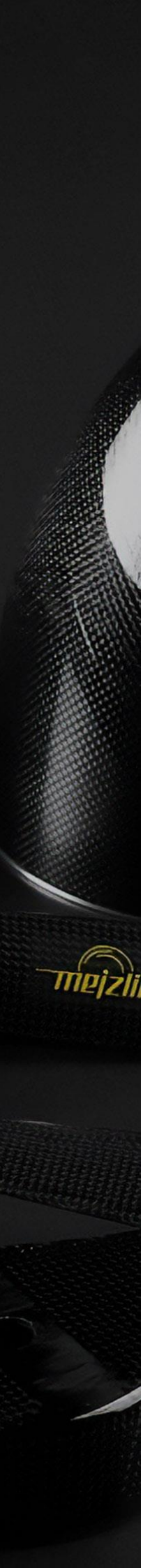
**0** m/s

| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | 95 | 4.14 | **1083** | **0** |
| 2750 | 116 | 5.00 | **1439** | **0** |
| 3000 | 139 | 6.00 | **1886** | **0** |
| 3250 | 163 | 7.09 | **2414** | **0** |
| 3500 | 191 | 8.32 | **3050** | **0** |
| 3750 | 221 | 9.65 | **3788** | **0** |
| 4000 | 253 | 11.12 | **4659** | **0** |
| 4250 | 291 | 12.71 | **5657** | **0** |
| 4500 | 324 | 14.39 | **6782** | **0** |
| 4750 | 369 | 16.22 | **8068** | **0** |
| 5000 | 414 | 18.05 | **9449** | **0** |
| 5250 | 452 | 20.62 | **11338** | **0** |
| 5500 | 510 | 22.92 | **13201** | **0** |
| 5750 | 557 | 25.44 | **15321** | **0** |
| 6000 | 616 | 28.51 | **17911** | **0** |
| 6250 | 677 | 31.86 | **20855** | **0** |
| 6500 | 741 | 35.62 | **24242** | **0** |

**Flight velocity**

**10** m/s

| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | 65 | 4.19 | **1096** | **60** |
| 2750 | 84 | 5.17 | **1490** | **56** |
| 3000 | 105 | 6.26 | **1965** | **53** |
| 3250 | 128 | 7.44 | **2533** | **51** |
| 3500 | 154 | 8.73 | **3200** | **48** |
| 3750 | 181 | 10.12 | **3975** | **46** |
| 4000 | 212 | 11.65 | **4879** | **43** |
| 4250 | 244 | 13.29 | **5913** | **41** |
| 4500 | 279 | 15.06 | **7099** | **39** |
| 4750 | 317 | 16.99 | **8449** | **38** |
| 5000 | 358 | 19.07 | **9987** | **36** |
| 5250 | 401 | 21.34 | **11730** | **34** |
| 5500 | 448 | 23.80 | **13707** | **33** |
| 5750 | 500 | 26.49 | **15951** | **31** |
| 6000 | 555 | 29.43 | **18492** | **30** |
| 6250 | 614 | 32.65 | **21372** | **29** |
| 6500 | 674 | 36.22 | **24653** | **27** |



# PERFORMANCE OF THE SYSTEM

**Flight velocity**

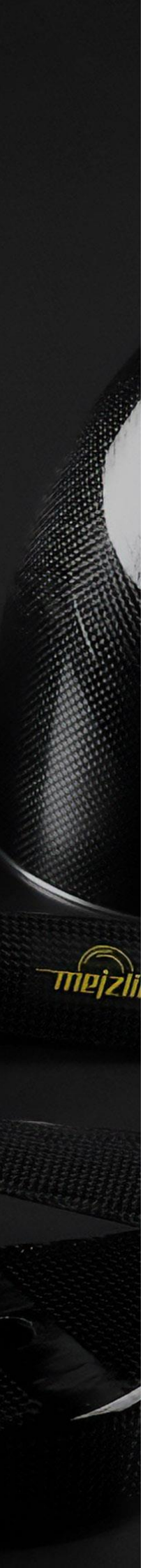
**20** m/s

| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | 18 | 2.48 | **650** | **54** |
| 2750 | 33 | 3.41 | **983** | **67** |
| 3000 | 51 | 4.55 | **1430** | **71** |
| 3250 | 72 | 5.84 | **1987** | **72** |
| 3500 | 94 | 7.23 | **2650** | **71** |
| 3750 | 119 | 8.72 | **3425** | **70** |
| 4000 | 146 | 10.33 | **4328** | **68** |
| 4250 | 176 | 12.06 | **5366** | **66** |
| 4500 | 209 | 13.92 | **6559** | **64** |
| 4750 | 244 | 15.92 | **7917** | **62** |
| 5000 | 283 | 18.07 | **9461** | **60** |
| 5250 | 324 | 20.40 | **11213** | **58** |
| 5500 | 369 | 22.91 | **13193** | **56** |
| 5750 | 417 | 25.63 | **15432** | **54** |
| 6000 | 469 | 28.59 | **17964** | **52** |
| 6250 | 525 | 31.84 | **20840** | **50** |
| 6500 | 585 | 35.40 | **24099** | **49** |

**Flight velocity**

**30** m/s

| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | -15 | 1.70 | **444** | — |
| 2750 | -12 | 1.95 | **561** | — |
| 3000 | -6 | 2.31 | **725** | — |
| 3250 | 6 | 3.16 | **1077** | **16** |
| 3500 | 23 | 4.25 | **1556** | **44** |
| 3750 | 43 | 5.42 | **2129** | **61** |
| 4000 | 67 | 6.91 | **2892** | **69** |
| 4250 | 93 | 8.65 | **3851** | **73** |
| 4500 | 122 | 10.58 | **4986** | **74** |
| 4750 | 154 | 12.68 | **6308** | **73** |
| 5000 | 189 | 14.93 | **7815** | **72** |
| 5250 | 226 | 17.33 | **9526** | **71** |
| 5500 | 267 | 19.91 | **11466** | **70** |
| 5750 | 311 | 22.67 | **13653** | **68** |
| 6000 | 359 | 25.66 | **16126** | **67** |
| 6250 | 411 | 28.93 | **18936** | **65** |
| 6500 | 467 | 32.51 | **22126** | **63** |



# PERFORMANCE OF THE SYSTEM

**Flight velocity**

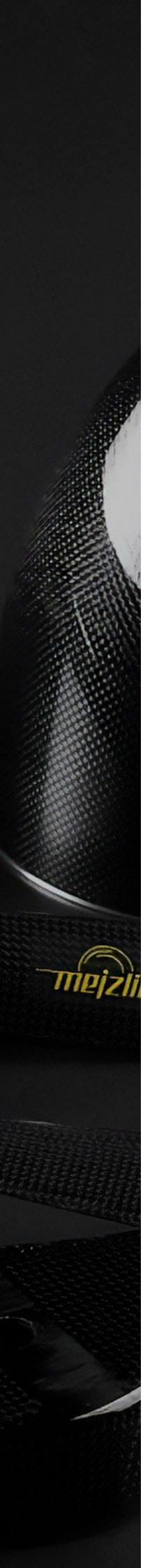
**40** m/s

| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | -30 | 1.25 | **327** | — |
| 2750 | -33 | 1.59 | **457** | — |
| 3000 | -33 | 1.84 | **577** | — |
| 3250 | -32 | 2.21 | **752** | — |
| 3500 | -29 | 2.62 | **961** | — |
| 3750 | -22 | 3.14 | **1235** | — |
| 4000 | -11 | 4.02 | **1682** | — |
| 4250 | 4 | 5.06 | **2250** | **8** |
| 4500 | 26 | 6.41 | **3022** | **35** |
| 4750 | 52 | 7.87 | **3913** | **53** |
| 5000 | 81 | 9.58 | **5017** | **65** |
| 5250 | 114 | 11.82 | **6501** | **70** |
| 5500 | 151 | 14.39 | **8287** | **73** |
| 5750 | 190 | 17.22 | **10367** | **73** |
| 6000 | 233 | 20.26 | **12731** | **73** |
| 6250 | 281 | 23.59 | **15441** | **73** |
| 6500 | 332 | 27.19 | **18507** | **72** |

**Flight velocity**

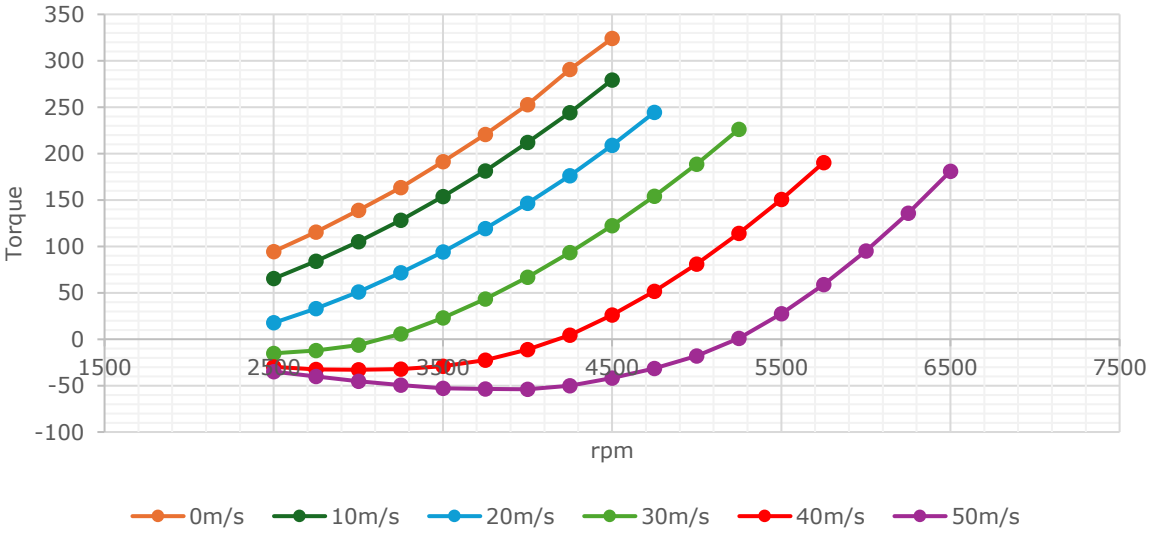
**50** m/s

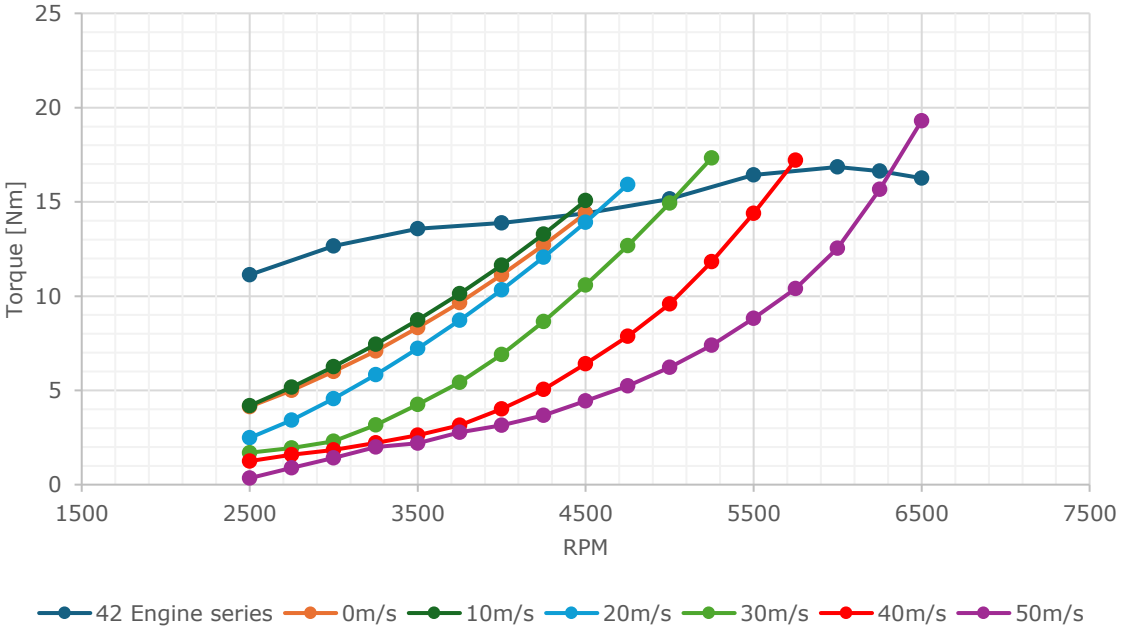
| Rotational Speed [RPM] | Thrust [N] | Torque [Nm] | Mechanical Power [W] | Propulsion efficiency [%] |
|---|---|---|---|---|
| 2500 | -35 | 0.34 | **90** | — |
| 2750 | -40 | 0.89 | **255** | — |
| 3000 | -45 | 1.41 | **443** | — |
| 3250 | -49 | 2.00 | **679** | — |
| 3500 | -53 | 2.19 | **803** | — |
| 3750 | -54 | 2.77 | **1089** | — |
| 4000 | -54 | 3.15 | **1321** | — |
| 4250 | -50 | 3.67 | **1633** | — |
| 4500 | -42 | 4.44 | **2091** | — |
| 4750 | -31 | 5.24 | **2608** | — |
| 5000 | -18 | 6.23 | **3262** | — |
| 5250 | 1 | 7.39 | **4063** | **1** |
| 5500 | 27 | 8.83 | **5085** | **27** |
| 5750 | 59 | 10.40 | **6265** | **47** |
| 6000 | 95 | 12.53 | **7875** | **60** |
| 6250 | 136 | 15.67 | **10255** | **66** |
| 6500 | 181 | 19.30 | **13137** | **69** |



# PERFORMANCE OF THE SYSTEM

## Hirth 42 series + Mejzlik 31x12 EVO LF
## 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.

**ID:** 0099