TECHNICAL DATASHEET

Manufacturer

Fractalitics GmbH Line-Eid-Straße 6, 78467 Konstanz, Germany	fractalitics.com contact@fractalitics.com

MEM 3115-01 900KV

EU-manufactured BLDC outrunner motor for FPV, long-range carrier, and cine-lifter platforms. N52H magnets rated to 120°C and Class 200 winding wire (IEC 60317-13, cut-through ≥ 320°C) deliver the thermal margin required for sustained high-load operation.

Primary application:
FPV, Long-range carrier, Cine-lifter

Recommended propeller:
8–10 inches

Recommended battery configuration:
Li-Ion / Li-Po 6S

Maximum thrust:
4044 g



Mechanical Data

Variant	MEM 3115-01 900KV
Configuration	12N14P
Stator	Ø=31 mm h=15 mm
Weight	115 g (including wiring, no fasteners)

Hardware & Physical Interface

Shaft diameter	5 mm
Mounting pattern	Standard Ø19 mm (M3)
Magnets	N52H, maximum operating temperature: 120°C
Windings	Enameled copper, Class 200 (IEC 60317-13), rated up to 200°C, cut-through ≥ 320°C
Wiring	270 mm 1 mm^2 silicone wire

Electrical Data

Max battery current[*1]	70.66 A
Max phase current[*1]	71.43 A
Max ESC input power[*1]	1621 W @ 22.93 V
No-load current	1.3 A @ 12V; 3.9 A @ 25.2 V
Winding resistance[*2]	26.4 mΩ
Winding inductance[*2]	8.1 µH

[1] Measurements were performed using Gemfan 10x5x3 propeller and 6S2P Molicel INR21700-P42A Li-Ion battery as the power source at room temperature. Test cycle included 10 s ramp up to full power, and 10 s sustained full power run.
[2] Measurements were performed including motor wiring on fully assembled motor as shipped.

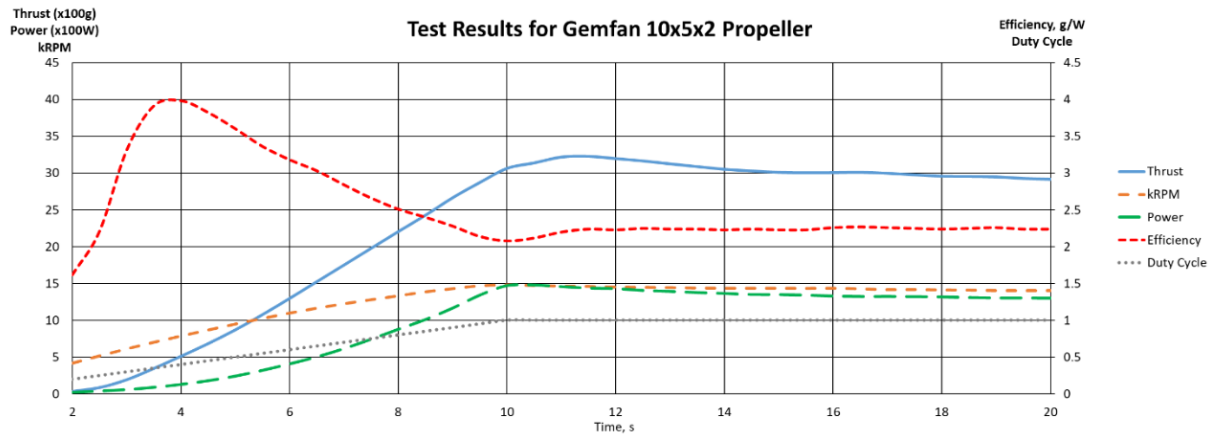
Recommended operating window: 60–80% throttle yields 2.5–3.3 g/W across all tested propellers. Best peak thrust: 4044 g (Gemfan 10x5x3). Peak efficiency in 60-80% throttle envelope: 3.28 g/W (Gemfan 10x5x3).

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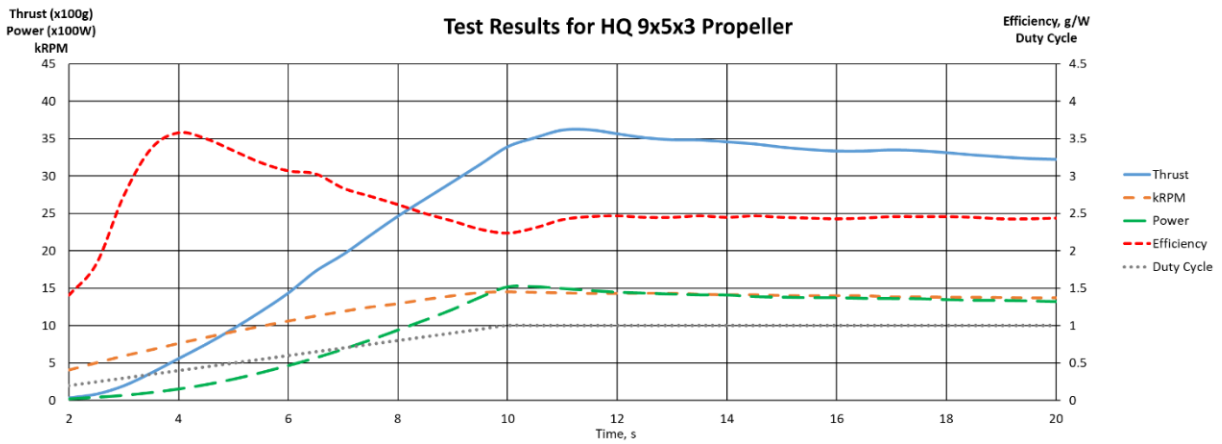
TECHNICAL DATASHEET

Performance Summary

Test Results for Gemfan 10x5x2 Propeller (Test Duration 20s)								
Propeller	**Battery Voltage**	**Duty cycle (%)**	**Thrust (g)**	**Input Current (A)**	**Input Voltage (V)**	**Power (W)**	**RPM**	**Efficiency (g/W)**
Gemfan 10x5x2	25.2 V 6S Li-Ion	20	32	0.78	25.3	20	4141	1.62
		40	510	5.10	25.1	128	7836	3.98
		60	1297	16.51	24.7	408	10956	3.18
		80	2205	36.67	24.0	880	13301	2.51
		100	3226	62.34	23.1	1440	14579	2.24



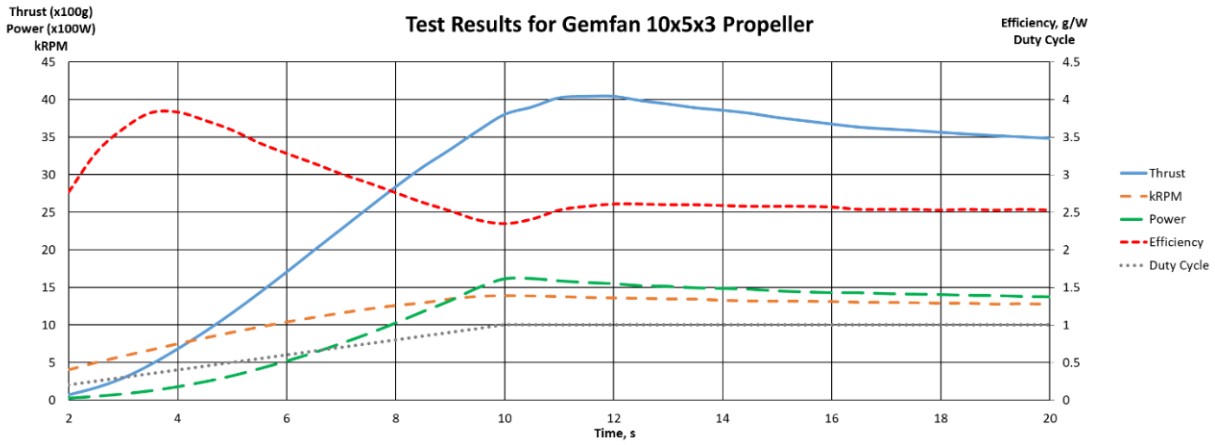
Test Results for HQ 9x5x3 Propeller (Test Duration 20s)								
Propeller	**Battery Voltage**	**Duty cycle (%)**	**Thrust (g)**	**Input Current (A)**	**Input Voltage (V)**	**Power (W)**	**RPM**	**Efficiency (g/W)**
HQ 9x5x3	25.2 V 6S Li-Ion	20	34	0.95	25.2	24	4093	1.42
		40	561	6.26	25.0	157	7647	3.58
		60	1437	19.05	24.6	469	10637	3.07
		80	2465	39.53	23.8	941	12942	2.62
		100	3618	63.87	23.0	1469	14314	2.46



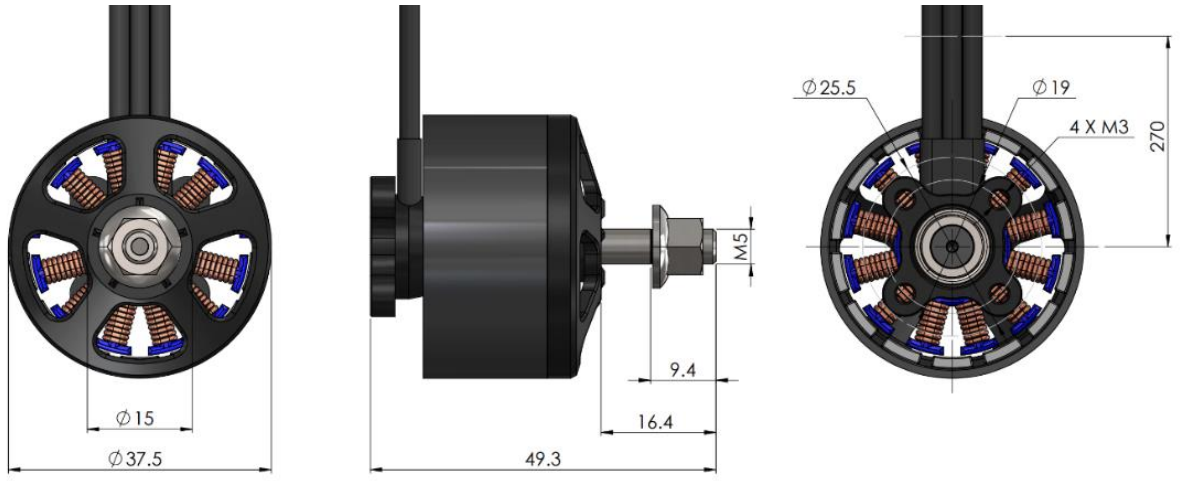
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Test Results for Gemfan 10x5x3 Propeller (Test Duration 20s)								
Propeller	**Battery Voltage**	**Duty cycle (%)**	**Thrust (g)**	**Input Current (A)**	**Input Voltage (V)**	**Power (W)**	**RPM**	**Efficiency (g/W)**
Gemfan 10x5x3	25.2 V 6S Li-Ion	20	70	1.00	**25.2**	**25**	4040	2.78
		40	682	7.13	25.0	178	7497	3.83
		60	1706	21.25	24.5	521	10396	3.28
		80	2840	43.40	23.7	1029	12586	2.76
		100	4044	67.79	22.9	1552	13588	2.61



Dimensions



All dimensions are in millimetres

Revision History

REV	DATE	PREPARED BY	CHECKED BY	DESCRIPTION
A	2026-06-26	RILE	VAKA	Initial Release

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