



Technical Details

Wingcopter 178 Heavy Lift A (Delivery Variant)

WINGCOPTER

Hardware

| | |
|--------------------|---|
| Drone Type | Tilt rotor vertical take-off and landing (eVTOL) |
| Dimension | 48 x 178 x 146 cm [H x W x L] |
| Weight | 8.4 kg empty 12.0 kg with 2 batteries 13.9 kg with 3 batteries 15.7 kg with 4 batteries 18.0 kg maximum take-off weight |
| Max Payload Weight | 6.0 kg |
| Drone Battery | Lithium-Polymer // 22.2 V / 16 Ah per batterie Vehicle can be equipped with 2x, 3x or 4x batteries |
| Sensors | Dual-GNSS, Dual Magnetometer, IMU, Pitot Tube, LiDAR Altimeter |
| Transmitter | ADS-B In/Out |
| Radio / Telemetry | 2x RC-Radio (2.4 GHz) 1x Cellular Telemetry (4G) 1x Satellite Telemetry (Iridium) |
| Ground Station | 1x Windows TOUGHBOOK incl. Wingcopter Ground Control Software incl. WLAN and SIM Slot for Telemetry |

Operation

| | Multicopter Mode | Fixed-wing Mode |
|--|--|--|
| Flight Speed IN MISSION MODE | 0 m/s minimum speed 5 m/s default cruise speed 14 m/s maximum cruise speed | 14 m/s minimum speed 24 m/s default cruise speed 42 m/s maximum cruise speed |
| Climb Speed IN MISSION MODE | 2.0 m/s climb rate 2.5 m/s descent rate | 2.5 m/s climb rate 3.0 m/s descent rate |
| Maximum Wind Resistance (Steady and Gust) | 15 m/s Take-off and Landing 10 m/s Delivery Slow Drop | 20 m/s During Flight |
| Maximum Flight Time | 2 min (at a time) | 120 min |
| Maximum Altitude | 3000 m AMSL | 5000 m AMSL |
| Auto-landing accuracy | 3 m | - |

| | |
|-----------------------|--|
| Flight Modes | Manual or Automatic Mission Mode |
| Operating Temperature | 0- 40° |
| Weather | No operation during icing conditions, heavy rain, or thunderstorms |

Range Estimation

| | | | | |
|--|--------|--------|--------|---------|
| Payload | 6 kg | 4 kg | 2 kg | 0 kg |
| Batteries | 2x | 3x | 4x | 4x |
| Direct one-Way Flight | | | | |
| Range | 40 km | 60 km | 100 km | 120 km |
| Flight time | 35 min | 50 min | 85 min | 100 min |
| Flight with Slow Drop or intermediate Landing | | | | |
| Range | 35 km | 50 km | 75 km | 90 km |
| Flight Time | 30 min | 40 min | 65 min | 80 min |

Considering ideal conditions (no wind, sea level altitude, 15°C air temperature), ideal cruise speed and 30% battery reserve

Delivery Payload

| | Hardcase Delivery Box | Cardboard Box |
|-------------------------|--|---|
| Delivery | On Landing | On Landing or Slow Drop |
| Release Mechanism | Manual by hand / Remotely Triggered / Programmed | |
| Outer Dimensions | 22 x 36 x 80 cm [H x W x L] | 19 x 24 x 75 cm [H x W x L] |
| Inner Dimensions | 20 x 25 x 32 cm [H x W x L] 16l volume | 18 x 23 x 28 cm [H x W x L] 10l volume |
| Empty weight | 0.5 kg | 0.3 kg |
| Optional Insulation Box | 12.5 x 26 x 25 cm [H x W x L] (Outer Dimensions) 6.5 x 22.3 x 17.2 cm [H x W x L] (Inner Dimensions) 4.5 l volume // 0.1 kg weight | 11.7 x 21 x 26 cm [H x W x L] (Outer Dimensions) 8.4 x 17.8 x 22.7 cm [H x W x L] (Inner Dimensions) 3.4l volume // 0.1 kg weight |

Transport

| | |
|-----------------------|---|
| Drone Transport Case | 57 x 87 x 103 cm [H x W x L] 32 kg (equipped, without batteries) |
| Equipment Case | 28 x 48 x 83 cm [H x W x L] 16 kg (equipped, without batteries) |
| Hardcase Delivery Box | 28 x 48 x 83 cm [H x W x L] |
| Case | 9.4 kg (equipped, without batteries) |
| Required Batteries | Drone Battery 24 x 11 x 9 cm // 2,0kg (inc. transport box) RC-Radio 8 x 4 x 2 cm // 0,15kg TOUGHBOOK 15 x 7 x 2cm // 0.35kg |

