





DA42-MPP

MULTI-PURPOSE FLIGHT PLATFORM

DA42 MPP Just Like Swiss Army Knife



DA42 MPP (Multi-Purpose flight Platform) is a special mission aircraft based on the highly praised DA42 NG. As the small fixed-wing aircraft, DA42 MPP enjoys convenient take-off and landing, long flight range and relatively low consumption. It provides a solution to general aircraft to overcome the inadaption in topographically complex areas like plateau mountainous areasand coastal islands.

The most outstanding feature of this product is "one aircraft with multi-mission". DA42 MPP can serve in a series of special missions including border patrol, smuggling and drug interdiction, natural resource exploration, photogrammetry and disaster rescue.

The aircraft can be modified into UAV or OPV. For long range flight or in dangerous areas, the aircraft can automatically pilot without manipulation.

DA42 MPP can provide certified remote sensing systems for users. Therefore, the emergency services it provides are featured with powerful function, high economical efficiency, ease to be integrated, highly strategic and sustainable for use, far better than similar products



DA42 MPP-Guardian

Precision From Above



More than a Plane





UNIVERSAL NOSE

TECHNICAL DATA:

• Max. equipment dimensions: square 400 mm (15.8"), height 300 mm (11.8")

APPLICATIONS:

- All EO / IR and Multi Media turrets up to 15.5" and 65 kg (143 lbs)
- Airborne Laser Scanner Systems
- Ash Sensors
- ILS Flight Calibration

NOSE POD

TECHNICAL DATA:

- Max. payload weight: 85 kg (187 lbs)
- Max. equipment dimensions:
 670 mm (26.4") x 530 mm (20.9") x 640 mm
 (25.2") (L x W x H)

APPLICATIONS:

- Photogrammetry
- Hyperspectral Sensors
- SAR & Maritime Radar
- Airborne Laser Scanner Systems

BELLY POD

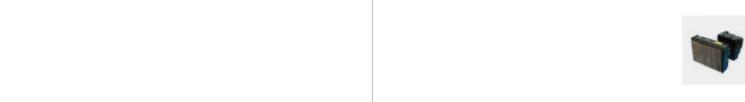
TECHNICAL DATA:

- Max. payload weight: 80 kg (177 lbs)
- Max. equipment dimensions:
 2510 mm (98.8") x 510 mm (20.1")
 x 430 mm (16.9") (LxWxH)

APPLICATIONS:

- Oil Spill Detection
- Airborne Laser Scanner Systems







SATCOM/UPLINK RADOME

TECHNICAL DATA:

- Max. payload weight: 2,5 kg (5.5 lbs)
- Max. equipment dim.: Ø 255 mm (10"), height: 245 mm (9.7")

APPLICATIONS:

SATCOM data transmission

RADAR POD

TECHNICAL DATA:

 Max. equipment dim.: Ø 990 mm (38.9"), height: 375 mm (14.8")

APPLICATIONS:

- Maritime patrol
- Boarder Patrol
- Search & Rescue
- Surveillance

GEO POD

TECHNICAL DATA:

 Max. equipment dim.: length: 500 mm (19.7"), width: 330 mm (12.9"), height: 280 mm (11")

APPLICATIONS:

- Laserscanning
- Photogrammetry (medium size)

UNDERFLOOR POD

(not shown on the aircraft)

TECHNICAL DATA:

 Max. equipment dim.: Ø 550 mm (21.7"), height: 250 mm (9.8")

APPLICATIONS:

- Airborne ground surveillance
- COMINT



Unique Features



DE-ICING

You can equip your DA42 MPP with a certified de-icing system which allows you to operate the aircraft in any weather conditions.

Austro Engine AE300

Worldwide fuel availability, multi-fuel certified, including No.3 Jet fuel (China). EECU and single-lever control.



Garmin G1000 Integrated Avionics Cockpit

Advanced avionic systems

Safety Development

Full scale impact testing with Crash Test Dummies
Damage tolerant airframe
26g crash test
10g flight tolerance





UAV+OPV Capability

Our aircraft is also the ideal platform for Unmanned Aerial Vehicles and Optionally Piloted Vehicles.

Our Safety Cell Monocoque Cabin

We use all the advantages of the solid carbon composite construction for building extremely safe aircraft.



Low Operating Costs

Low fuel consumption: at 35% power: 24.3lt / hr(6.4 US gal/hr)

Short downtimes

Endurance up to 12 hours, range at 50% power: 2218km(1198 nm)

Fuel grades

Powerful Engine

Worldwide fuel availability, multi-fuel certified[Jet A1, TS-1(Russia, Ukraine), RT(Russia, Ukraine), No.3 Jet Fuel(China)]

Two Austro AE300 turbocharged common-rail injected 2.0 liter diesel engines with 168HP for each engine and EECU single-lever control.

Low fuel consumption based on advanced direct fuel injection system

Advanced engine management system(EECU), single lever contro

Safety features

All weather capability day and night(certified icing protection)

Garmin 1000 "Synthetic Vision" feature- airliner standard

Fully integrated GFC 700 autopilot reduces pilot workload/fatigue

EASA/FAA single pilot certified

Damage tolerant airframe: 26g crash tested, 10g flight tolerance

uel protection system

Positive rate of climb at MTOW with one engine inoperative, single engine service ceiling 4267m/14,000 ft

Low noise and IR features

Virtually undetectable at 1000 meters/3280 feet in suburban areas, 60 dB at 150 meters / 500 feet AGL at loiter speed

Minimum Downtime

Overnight on-site maintenance for engines and airframe

Worldwide support and service centre network

Unlimited life time for all composite components

Tomorrow's Technolog

Advanced composite technologies developed by Diamond Aircraft







Modular interior configuration. Co-pilot seat can be replaced by an equipment rack. It is also possible to remove the rear seats to increase payload up to 77kg(170 lbs) and replace it with equipment.





Exhaust System

Optional on-top Exhaust System:

- Muffler(60dB at 150 meters / 500 feet AGL at loiter speed)
- Infra-Red Reduction Kit





Satcom

Beyond line of sight Up- and Downlink: up to 2×432 kbps for video, audio, screen shots



104 Large Elevator Tip

To increase aircraft stability



Sensors

HiDef EO/IR turret, Synthetic Aperture Radar, Mission Management System, COMINT





Power

Additional wiring tunnel connect the hard points of the equipment compartments. Dedicated power source of 28V, 40A for mission equipment provides mission power for 4×28V-busses and 2×14V-busses. Additional generators available(28V,70A)





7 Microwave Line Of Sight Downlink

Guaranteed stable encrypted data transfer in HD quality up to 100NM(180 km)



Global Operation

Fuel availability due to world-wide support of jet fuel or other fuel types[Jet A1, TS-1(Russia, Ukraine), RT(Russia, Ukraine), No.3 Jet Fuel(China)]



9 Compartments

Hard points are located in the standard luggage compartments for mounting equipment racks. Up to 45kg (99 lbs) in the rearand up to 30kg (66 lbs) in the nose compartment.





Bubble Canopy

Bubble shaped canopy allows a better view downward for the pilots while wearing helmets





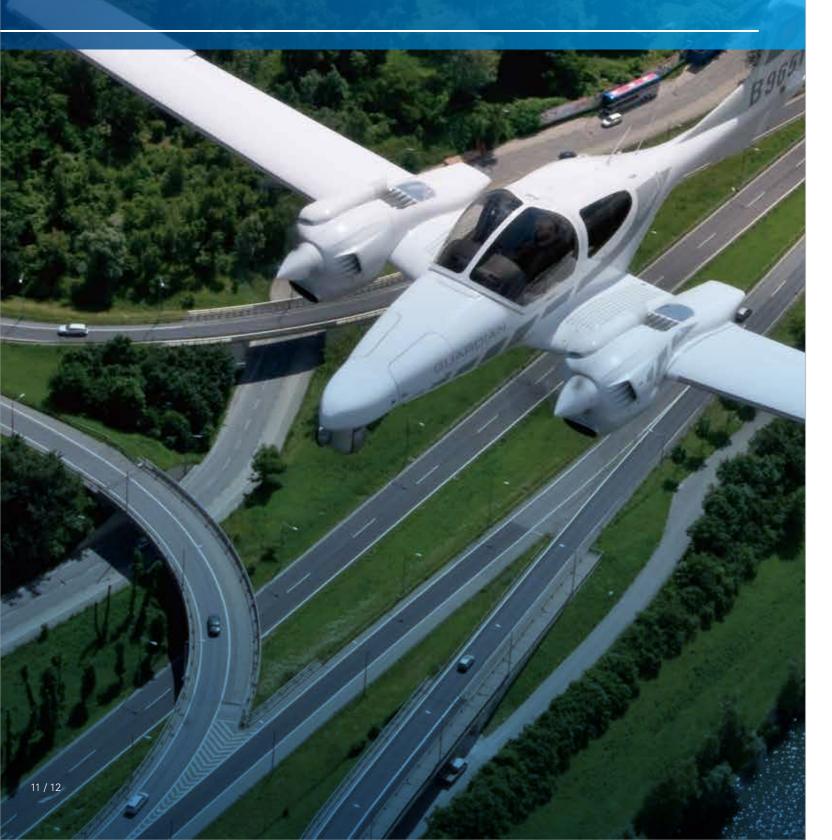
Surveillance Painting

Surveillance painting reduces sun reflections to a minimum level of recognition.





Intelligence, surveillance & Reconnaissance Missions



Covert Surveillance, Observation Missions For:

- Smuggling
- Drug Interdiction
- Human Trafficking
- Terrorist Activity

General Surveillance, Observation Missions For: Disaster Management, Observation Missions

- Event Protection(marches, demonstration, etc.)
- Public Order & Riot Control
- VIP Protection VIP

Border Control, Observation Missions For:

- Smuggling
- Drug Interdiction
- Human Trafficking
- Terrorist Activity
- Population Migration



Maritime Patrol, Observation Missions For:

- Coastal Patro
- Illegal Fishing
- Pirate Activity
- Search and Rescue

Disaster Management, Observation Missions For:

- Fire Management
- Chemical Spills
- Flood Management
- Road, Rail and Air Crashes

Environmental Monitoring, Observation Missions For:

- Chemical and Oil Spill Detection
- Pipeline Leak Detection
- Pollution Control
- Atmosphere Sampling
- Animal Control

Environmental Monitoring, Missions Required By Agencies:

- Power Line Inspection(f.e. sagging, isolator)
- Pipeline Leak Inspection(f.e. leak, sagging)
- Monitoring of gas and oil storage, water supply systems
- Monitoring of critical buildings(f.e. banking and governmental facilities)
- Railroad and Highway Monitoring



Principles of Data Transmission



frequency from 350 MHz to 5 GHz up to 180 km(100nm)



Mobile Ground Station





BEYOND LINE OF SIGHT:

SATCOM 2X 432 KBPS.





• Blos voice communication (up link, down link)

• Live chat

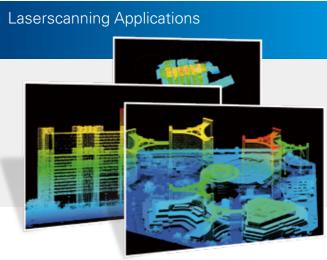
Moving map capability

Geo Surveys Media & Other Missions

Infrastructure Planning Powerline planning/monitoring Pipeline planning/monitoring Railroad and highway planning/monitoring Visualization of planned projects(bridges, buildings, etc.) natural resource exploration General mine support operations Monitoring of compliance with mining laws & rules Geo-hazard prevention Landuse mapping Flood prevention Fire fighting Mass movement(massif, geology) detection Detection of ocean pollution Vegetation Analysis Landuse mapping Precision farming Brownfield monitoring Forest canopy mapping Detection of camouflaged vehicles Detection of illegal ship unloading Monitoring of compliance with mining and building law Urban and rural mapping Cadastral survey Landuse and corridor mapping Orthophotos

Diamond Aircraft DA42 MPP Equipped For Laser Scanning





Multimedia Applications V14 Hd Media Camera



Diamond Aircraft DA42 MPP Equipped For Photogrammetry



Photogrammetry Applications



Diamond Aircraft DA42 MPP Equipped For Multimedia



3d mapping

Topographic maps

Midpoint relay
High-resolution videos

Other Missions
Flight inspection
Radio monitoring (comint)

Forest canopy mapping

Live coverage of sporting and mass events

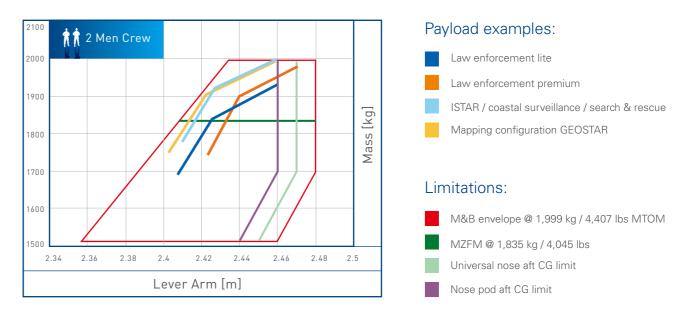
Payload Performance: DA42 MPP Guardian

Payload mission equipment	161 kg	355 lbs
TKS anti-icing fluid (3.9 US gal / 15 lt)	16 kg	35 lbs
Fuel (76 US gal / 287 It Jetfuel):	235 kg***	518 lbs***
Crew (2 men):	160 kg	353 lbs
Typical airplane standard options:	58 kg**	128 lbs**
Payload available in total	634 kg	1,398 lbs
Empty weight:	1,365 kg*	3,008 lbs*
Maximum take off weight:	1,999 kg	4,407 lbs

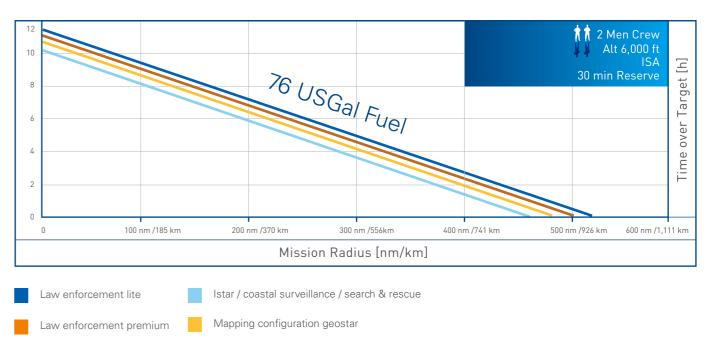
Law enforcement lite	85 kg	187 lbs
15" eo / ir turret,los downlink,mission management s	ystem & moving map,dvr,tactical com	
Law enforcement premium	140 kg	309 lbs
15" eo / ir premium high-end turret,los downlink,blos	satcom system, mission management system & moving map, dvr, tactica	com
15" eo / ir premium high-end turret,los downlink,blos	satcom system,mission management system & moving map,dvr,tactica	com
15" eo / ir premium high-end turret,los downlink,blos Istar/coastal surveillance/search & rescue	satcom system,mission management system & moving map,dvr,tactica	353 lbs
Istar/coastal surveillance/search & rescue		353 lbs
Istar/coastal surveillance/search & rescue	160 kg	353 lbs
Istar/coastal surveillance/search & rescue	160 kg	353 lbs

^{*}average empty weight, excl, airplane standard options

Mass & balance examples



Mission radius vs. Time over target examples





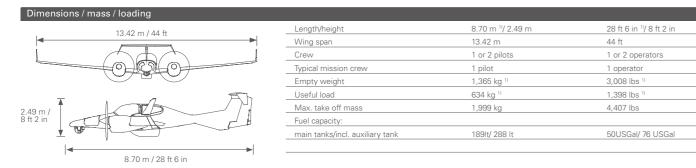
^{**}tks de-icing(excl,mapping configuration geostar),auxiliary tanks,dme,wx500 stormscope,avidyne tas605

^{***}specific fuel weight 0,814 kg/lt

DA42 MPP Guardian - facts and specifications

Power Plant	
Engine	1,2x AUSTRO ENGINE AE300 (168 hp, turbo charged)
Propeller	2x MT 3-blade hydraulic constant speed propeller
Fuel grades	Jet A-1, Jet A, TS-1 (Russia, Ukraine), RT (Russia, Ukraine), No. 3 Jet Fuel (China), JP-8

Performance		
Max. cruise speed (14,000 ft, MCP)	328 km/h TAS	177 kts TAS
Min. operation speed	140 km/h IAS	76 kts IAS
Consumption at 35% power (loiter speed)	24.2 lt/hr	6.4 USGal/hr
Max. airborne operations time at 35% power	12 hours 1)	12 hours 1)
Typical airborne operations time	6 - 8 hours 1) 2)	6 - 8 hours 1) 2)
Max. range at 50% power in 14.000 ft (standard / auxilliary tank)	1,452 km / 2,218 km 1)	784 nm / 1,198 nm 1)
Take-off distance over 50 ft obstacle (ISA SL)	700 m	2,297 ft
Landing distance over 50 ft obstacle (ISA SL)	570 m	1,870 ft
Max. service ceiling	5,486 m	18,000 ft



- Measurements can differ depending on the specific sensor equipment
- With standard mission equippment and 2-man crew

Specifications can differ depending on the specific sensor equipment. The above quoted data are approximately specifications and may change without notice.

Multi Purpose Platform options

DA42 MPP Guardian:

- Austro Engine AE300
- Garmin G1000 glass cockpit
- Garmin GFC700 autopilot
- Pubble concess
- · Reinforced hard points for external pods
- Reinforced cabin seats for operator desk
- Large elevator tips
- Power supply for mission equipment

Aircraft Options	
TKS Anti-icing System	25 kg / 55.1 lbs
Auxiliary tanks (+ 26 USGal)	20 kg / 44 lbs
Integrated oxygen system	14 kg / 30.8 lbs
Mobile oxygen system	4 kg / 8.8 lbs
Air condition RACC system	38 kg / 83.7 lbs
Air condition lite	22 kg / 48.5 lbs
Flight data recorder	3 kg / 6.6 lbs
Electrical adjustable rudder pedals	2 kg / 4.4 lbs
Custom exterior striping	0 kg / 0 lbs

Avionics Options	
Honeywell KN63 DME	3 kg / 6.6 lbs
WX500 Stormscope	3 kg / 6.6 lbs
Avidyne TAS 605 traffic advisory system	7.0 kg / 15.4 lbs
Garmin GSR 56 satellite receiver system	1 kg / 2.2 lbs
Becker 3500 ADF	5 kg / 11 lbs
Garmin synthetic vision	0 kg / 0 lbs
Garmin chart view	0 kg / 0 lbs

Mpp Options	
Noise & IR-signature reduction kit	E2 kg / 26.4 lbs
Underfloor surveillance painting	2 kg / 4.4 lbs
Operator desk	2 kg / 4.4 lbs
Operator console	0 1 / 0 11
(replaces co-pilot seat)	0 kg / 0 lbs
First additional generator	40 1 - 700 4 11 -
1.96 KW (28V/70 Amps)	12 kg / 26.4 lbs
Second additional generator	12 kg / 26.4 lbs
3.92 KW total (2 x 1.96 KW)	12 kg / 26.4 lbs
HF aircraft radio communication	E las / 44 llas
(2-30MHz)	5 kg / 11 lbs
Garmin tactical software	0 kg / 0 lbs
(Search & Rescue)	0 kg / 0 lbs
Canopy sunprotection set	11/221ba
(RH & LH)	1 kg / 2.2 lbs
Operator cabin fabric light	E lan / 11 llan
protection covers	5 kg / 11 lbs
Canopy cover	4 kg / 8.8 lbs
Engine cover set	3 kg / 6.6 lbs
Starter package GSE MPP operation	
(ground support equipment)	as required

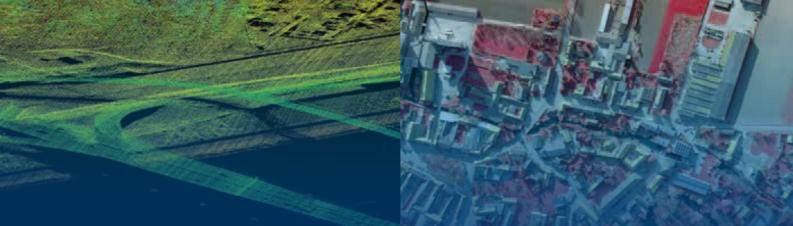






DA42 MPP-GEOSTAR

High Geo Accuracy meets Operational Economy



Geostar is equipped with several geographic remote sensing systems for geo-survey and mapping. It can circle in the sky over any topographic areas and precisely map the topography. Geostar greatly supports human beings to understand the local environments.

Configuration For Geo Survey & Mapping





- Auxiliary tanks (additional 26.4 US Gal)
- Honeywell KN63 Remote DME
- WX500 Stormscope
- Avidyne TAS605 Traffic Advisory System
- Garmin GSR 56 Satellite Receiver
- Garmin Synthetic Vision
- Garmin Chart View
- MTOM 1,995 kg Restricted Overweight Operations



Airborne Laser Scanner Systme

- High operating altitude up to 15,500 ft(4,700 m)
- High laser pulse repetition rate up to 400 kHz (> 20 points/m²)
- Multiple Turn Around up to 10 pulses simultaneously
- Wide scan field of view up to 60°
- Full Wave form analysis
- High ranging accuracy 20mm







a.Photogrammetric Camera

- 92 megapixels footprint
- Ground sample distance <4 cm
- Panchromatic, RGB& CIR images
- Forward Motion Compensation
- Wide field of view of 57°



b.Gyro-stabilization Mount

- Drastic movement reduction of the photogrammetric camera
- Electro-mechanical gimbal system
- $\bullet~$ Pitch/Roll stabilization angle up to 8.5°
- Yaw stabilization angle up to 10°





a. Operator Station

Modular interior configuration

b.Bubble Canopy

• Allows a better view for the pilots





Flight Management & Geo-encoding Solution Igi

- Pilot & Operator screen with different views of surveying area
- Personalized Display Information
- Support for digital camera systems, LiDAR systems, SAR etc.
- Direct Georeferencing for all sensors, IMU export free





Austro Engine Ae300

- In-house designed turbo diesel engines
- 168 hps per engine
- Fuel grades: Jet A1, TS-1(Russia, Ukraine), RT(Russia, Ukraine), No.3 Jet Fuel(China), JP-8
- Ultra low fuel consumption





Large Elevator Tips

• To increase yaw stability for precision flights

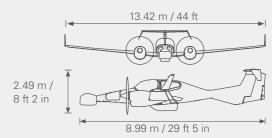


Garmin G1000

- full integrated glass cockpit / flight management system
- Synthetic Vision Technology
- GFC 700 Autopilot, including YD, IAS, LNAV / VNAV, FD



DA42 MPP Geostar Facts



Minimum operation speed	76 KIAS	140 km/h
Maximum cruise speed @ fl 140	166 KTAS	307 km/h
Fuel tank capacity	76.4 USGal	289
Certified service ceiling	18,000 ft	5,474 m
Take-off distance (50 ft obstacle / isa msl)	3,228 ft	982 m
landing distance	2,071 ft	630 m

Mass & Balance		
Maximum take-off mass	4,407 lbs	1,999 kg
Empty mass	3,519 lbs	1,596 kg
Useful load for crew and fuel		
(with standard options and	888 lbs	403 kg
GEOSTAR mission configuration)		
Maximum useful load	1,398 lbs	634 kg

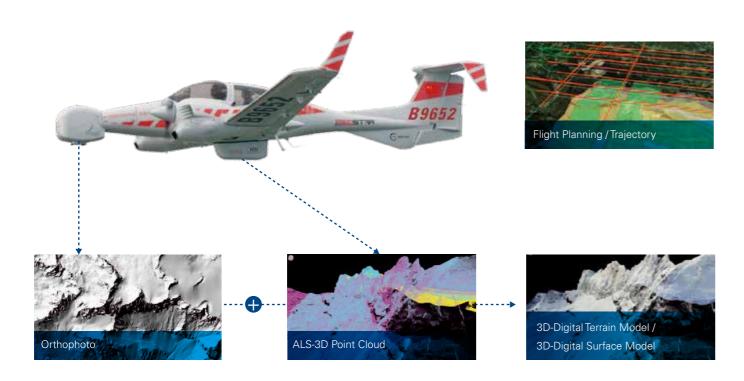
Load Example	
Crew	1 pilot, 1 operator
Fuel available	76.4 USGal / 289 I
Maximum endurance	10.9 hours
Maximum range	1,042 NM / 1,929 km



• The above quoted data are approximately specifications and may change without notice.



Mission Profile



Initial Conditions

- Distance homebase-area of interest: 50 NM / 93 km
- Ferryflight in operating altitude MSL
- 3 minutes turns between flight lines
- 30 minutes final reserve
- Distance: homebase to alternate airport: 20NM
- 2 men crew

Examples	Examples	Examples	Examples
	Urban mapping,	Topography,	Wide-area mapping,
	facility & city modelling,	agricultural mapping,	long corridors,
Applications	mining & archeology,	forestry mapping,	large-scale national
	power lines & infrastruc-	glacier & snowfield	mapping
	ture mapping	mapping	
Operations speed	111 KTAS / 57 m/s	126 KTAS / 65 m/s	151 KTAS / 78 m/s
Altitude AGL	1,500 ft / 457 m	5,000 ft / 1,520 m	10,000 ft / 3,048 m
Fuel flow [USGal/h]	8.8 (50% power)	10.2 (60% power)	14.2 (80% power)
Lateral overlap	50%	30%	20%
Point density [pts / m2]	18.0 (with overlap)	2.6	0.3
Ground sample distance GSD	3.91 cm / 1.53 inch	13.03 cm / 5.13 inch	26.07 cm / 10.26 inch
Assumed line length	5.4 NM / 10 km	16.2 NM / 35 km	27 NM / 50 km
Approx. coverage area / hour	25.1 km² / 9.7 mi²	194.2 km² / 75 mi²	577.4 km² / 222.9 mi²
Total flight time / survey time available	8.11 h / 7.21 h	7.0 h / 6.12 h	5.41 h / 4.56 h
Total coverage area per flight	181 km² / 70 mi²	1,188 km² / 459 mi²	2,635 km ² / 1,017 mi ²

Join The Diamond Family

Diamond in the world

Diamond Aircraft Industries GmbH, founded in 1981, is the sole well-known enterprise in the world that develops and produces aircrafts as well as engines, ranking the third among similar general aircraft manufacturers worldwide and enjoying proud safety records.

Diamond Aircraft Industries GmbH has the EASA approved aircraft design facility (Facility No. EAS.21 J.052) to design and develop aircrafts independently. Renowned in the global light aircraft market, Diamond Aircraft has sold more than 3,500 aircrafts, covering North America, Europe, Asia and Oceania.

Diamond In China

China Electronics Technology Corporation (CETC) and Wuhu municipal government jointly established CETC Wuhu Diamond Aircraft Manufacture Co., Ltd and CETC Special Mission Aircraft System Engineering Co., Ltd in 2013. They are state-owned high-tech enterprises occupied in the research, manufacture, sale, maintenance and service of aircrafts with general aviation purpose and other sorts of uses, as well as their associated equipments.

We have fully cooperated with Diamond Aircraft Industries GmbH, introducing and producing advanced, multi-purpose light general aircrafts and jointly established aircraft designing research institute to develop and produce new types of aircraft. We have formed strategic alliance with Diamond Aircraft Industries GmbH and became its global agent and exclusive agent in China to sell DA42/DA20 aircrafts. We are all dedicated professionals in the general aviation industry. You will benefit from a large field of experience as well as extensive product. We will take the time to listen to your goals and concerns and assist you while evaluating a solution customized to your needs and requirements.

Contact us today at +86 553 5992023 Or find us at www.diamondaircraft-china.com

CETC Special Mission Aircraft System Engineering Co., Ltd

CETC Special Mission Aircraft System Engineering Co., Ltd is a state-owned high-tech enterprise, jointly established by China Electronics Technology Corporation, local government and industrial capitals. It is the authorized agent of Diamond Aircraft DA42 MPP and occupied in the research, manufacture, sale and service of general aviation aircraft system, UAV system and multi-purpose mission payload system. It is head-quartered in Chengdu. Based on the production line of DA 42 aircrafts introduced by CETC Wuhu Diamond Aircraft Manufacture Co., Ltd and advantages in multi-purpose mission payload system of the CETC, the company has successfully developed a series of special mission aircrafts and Medium-Altitude Long-Endurance multi-purpose UAV in cooperation with world-leading aviation enterprises and research institutes.

Contact us today at +86 28 62680680 Or email us by tianml@cetca.net.cn

