



UNMANNED HELICOPTERS

UNMANNED HELICOPTER **FALCON**



KB UNMANNED HELICOPTERS –
A LEADER IN THE UNMANNED INDUSTRY
SPECIALIZING IN THE DEVELOPMENT
AND PRODUCTION OF UNMANNED
HELICOPTERS AND MULTIFUNCTIONAL
HELICOPTER-TYPE COMPLEXES.

**29 YEARS OF DESIGN AND ENGINEERING
EXPERIENCE OF EMPLOYEES IN THE FIELD
OF UNMANNED AVIATION**

MORE THAN 400 EMPLOYEES

MORE THAN 50 DEVELOPMENTS

OWN PRODUCTION BASE

TESTING CENTRES AND LABORATORIES

SERVICE MAINTENANCE

**OWN AIRFIELD AND FLIGHT
TESTING STATION**

THE PRODUCTS UNDER DEVELOPMENT
HAVE A WIDE RANGE OF APPLICATIONS
AND CAN BE EQUIPPED WITH
VARIOUS PAYLOADS, DEPENDING
ON THE PURPOSE AND USE.

UNMANNED HELICOPTER **FALCON**

The **FALCON** unmanned helicopter is designed according to the classical single-screw system with a three-blade rotor and a two-blade steering propeller and is an aircraft with a power plant with gas turbine engines **Rolls-Royce 250-C20**, powered by aviation kerosene.



The **FALCON** unmanned helicopter is an optimal solution of the task of delivery of goods weighing up to 200 kg to hard-to-reach places.



The helicopter is equipped with an avionics complex that provides automatic take-off, flight and landing of an unmanned aerial vehicle with the ability to hover over the mission site.

TECHNICAL CHARACTERISTICS

Rolls-Royce 250-C20 engine	Gas turbine engine
Fuel type	JET A, JET A-1, JET B according to DERO 2494 TS-1, T2, RT according to GOST 10227-86
Maximum continuous power	276 kW
Specific fuel consumption on take-off	0.424 kg/kw/h
Dry engine weight	75 kg
Assigned engine life	3000 h
Mass data*	
Maximum theoretical take-off mass (ISA)	950 kg
Normal take-off weight (ISA)	800 kg
Weight of a dry UAV (without service load)	400 kg
Payload	200 kg
Standard fuel supply	250/200 l/kg
Main flight characteristics	
Maximum flight speed (ISA)	180 km/h
Maximum range Airspeed (ISA)	130 km/h
Maximum flight duration speed (ISA)	100 km/h
Practical ceiling at take-off weight 800 kg (ISA) *	4000 m
Static ceiling at take-off weight 800 kg (ISA) *	2000 m
Flight duration with full tanks (altitude 100-500 m) with a take-off weight of 800 kg (ISA) *	4 h
Maximum range with full tanks and maximum payload at cruising speed of 130 km/h	400 km
Maximum permissible wind speed for take-off and landing	15 m/s



The concept of cargo delivery by unmanned aerial vehicles developed by KB Unmanned Helicopters allows to comprehensively solve the issue of supplying offshore oil and gas platforms in all climatic zones.



GROUND CONTROL STATION

Designed to provide remote control of the UAV, its equipment, as well as the reception and display on monitors of information from the course and landing camera.

Allows you to control two helicopters at the same time.

It is equipped with a telescopic antenna orientation system mast, an automatic lifting mechanism of the weather station and two operational communication antennas.

Provides Ethernet connectivity to enable the integration of GCS into other systems and complexes, thus ensuring that information is received and transmitted through agreed channels and protocols.



GCS PROVIDES:

- Telemetry data exchange with UAV in real-time;
- Information receiving, displaying, recording, storing and reproducing on monitor screens in real-time;
- Flight mode control;
- Flight task preparation and its loading into the onboard complex;
- Technical condition control of the UAV onboard complex;
- UAV pre-flight preparation and post-flight maintenance;
- Determination of weather conditions and other atmospheric parameters;
- Management of communication lines;
- Maintaining logs and records of task execution;
- Task simulation.



In a typical configuration, the GCS is manufactured in the shelter body (KUNG), which is an all-welded aluminum structure. The construction of special removable eyelets in the upper part of the side racks and the base makes it easy and reliable to reload, move and transport the container. The container is made without the use of combustible materials. The air extraction and inflow are regulated by the automatic filter-ventilation system. The station is equipped with autonomous heaters and air conditioning. The exhaust and air supply are regulated by an automatic filter ventilation system.



The Ground control station has four automated workstations for two UAV operators and two technicians.

Monitors quantity	17 pcs
Monitors screen size	22 inch
Weather station	1 pcs
Data link range for exchange with UAV	150 km
GCS time of deployment	10 minutes
Autonomous operation time of GCS from batteries	6 hour
Generator power	7 kW
Air conditioner power	2x2 kW
Size of the transport container (KUNG)	218x267x520 cm
Weight	1981 kg
Operating temperature	-30 to +65 °C

At the request of the customer, it is possible to install a console with GCS workstations on the basis of any vehicle or stationary object, the dimensions of which allow you to place standard equipment.

GROUND FLIGHT SUPPORT STATION

Ground flight support station includes three compartments: airfield power source with gasoline generator, fuel station with 800 liters of gasoline and mobile workshop, where comfortable workplaces for two technicians are organized. the workshop is equipped with a refrigerator, microwave and kettle.



UNMANNED HELICOPTER FALCON is a complex autonomous device, which performs all tasks and commands of the UAV operator in automatic mode. The algorithms set and behavior logic, used by the UAV depends on one of the selected modes of its operation. The UAV operator actions are reduced to the choice of operation specific mode.





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