



**RUSSIAN
HELICOPTERS**




**Mi-171A2
CERTIFIED
UTILITY HELICOPTER**

Key advantages

- High performances when operated in high mountain conditions
- Reliability when operated in severe environment conditions
- Ease of operation and maintenance
- Wide range of special equipment
- High level of safety
- Convertible cargo and passenger cabin
- Availability of a type certificate




РОССИЙСКАЯ ФЕДЕРАЦИЯ
RUSSIAN FEDERATION

МИНИСТЕРСТВО ТРАНСПОРТА РОССИЙСКОЙ ФЕДЕРАЦИИ
MINISTRY OF TRANSPORT OF THE RUSSIAN FEDERATION

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ВОЗДУШНОГО ТРАНСПОРТА
FEDERAL AIR TRANSPORT AGENCY

СЕРТИФИКАТ ТИПА
TYPE CERTIFICATE

№ FATA-02023R

ИЗДЕЛИЕ PRODUCT	Вертолет Ми-171А Helicopter MI-171A
НАСТОЯЩИЙ СЕРТИФИКАТ ВЫДАН THIS CERTIFICATE ISSUED TO	АО «Московский вертолетный завод им. М.Л. Миля» Mil Moscow Helicopter Plant, SC
ГОСУДАРСТВО РАЗРАБОТЧИКА STATE OF DESIGN	Российская Федерация Russian Federation
МОДЕЛИ MODELS	Ми-171А Ми-171А1 Ми-171А2

УДОСТОВЕРЯЕТ, ЧТО ТИПОВАЯ КОНСТРУКЦИЯ УКАЗАННОГО ИЗДЕЛИЯ
СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ РАСПРОСТРАНЯЕМОГО НА НЕГО
СЕРТИФИКАЦИОННОГО БАЗИСА

CERTIFIES THAT THE ABOVE-MENTIONED PRODUCT TYPE DESIGN MEETS ITS CERTIFICATION BASIS
REQUIREMENTS

ОПИСАНИЕ ТИПОВОЙ КОНСТРУКЦИИ И СЕРТИФИКАЦИОННОГО БАЗИСА,
ОСНОВНЫЕ ЭКСПЛУАТАЦИОННЫЕ ОГРАНИЧЕНИЯ И ХАРАКТЕРИСТИКИ
ИЗДЕЛИЯ СОДЕРЖАТСЯ В КАРТЕ ДАННЫХ СЕРТИФИКАТА ТИПА № FATA-02023R,
КОТОРАЯ ЯВЛЯЕТСЯ НЕОТЪЕМЛЕМОЙ ЧАСТЬЮ НАСТОЯЩЕГО СЕРТИФИКАТА


THE DESCRIPTION OF TYPE DESIGN AND CERTIFICATION BASIS, BASIC OPERATING LIMITATIONS AND THE
PRODUCT PERFORMANCE ARE PRESENTED IN THE TYPE CERTIFICATE DATA SHEET № FATA-02023R WHICH IS AN
INTEGRAL PART OF THIS CERTIFICATE

ЗАМЕСТИТЕЛЬ РУКОВОДИТЕЛЯ
DEPUTY DIRECTOR GENERAL

Выдан взамен: №132-171А
Issued instead of

М.В. БУЛАНОВ

15 августа 2017 г.



Application variants

- Carriage of cargoes and passengers
- Search operations, patrolling and territory monitoring
- Rescue operations
- Fire-fighting operations
- Medical Evacuation



Main design features

X-shaped tail rotor



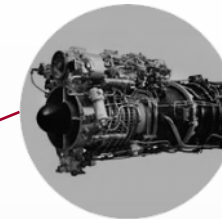
APU TA-14-130-08
or SAFIR 5K/G MI



Composite main rotor blades
with improved profile



VK-2500PS-03 Engines with
FADEC system



Piloting by two crew
members



DPD PALL or standard



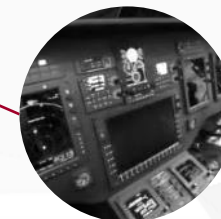
Conditioning system



Pilot and passenger
crashworthy seats

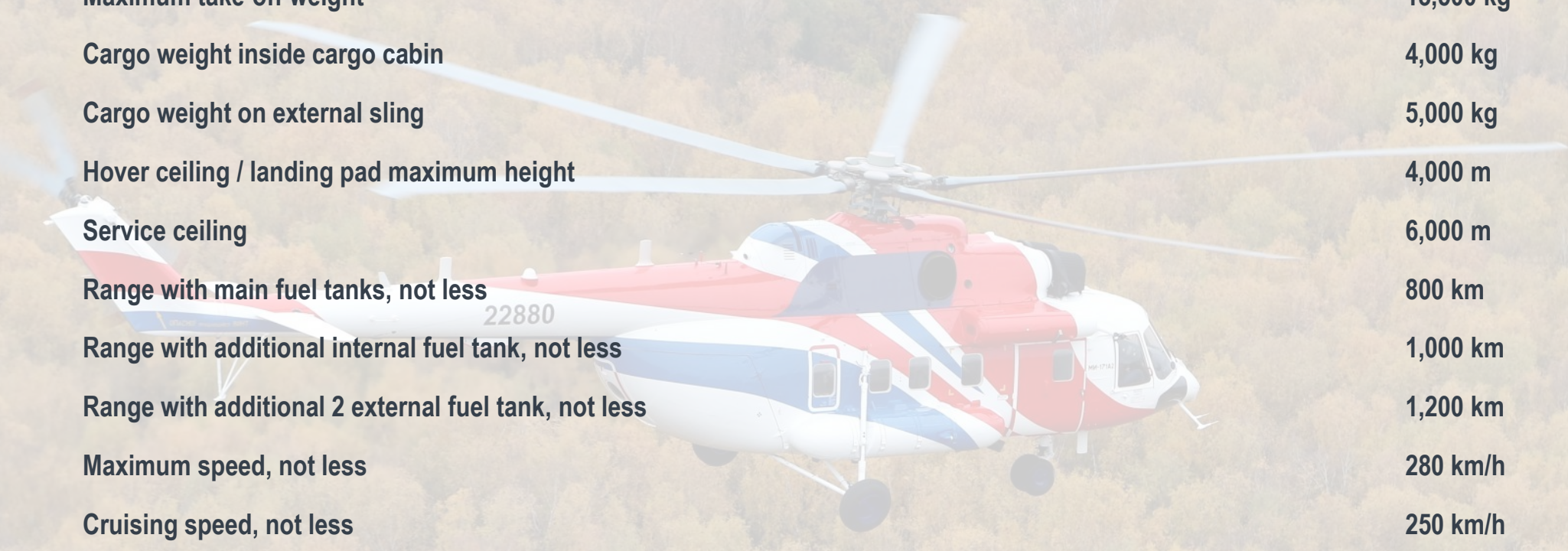


The day-and-night surveillance
system KOC-17-1



Integrated flight and navigation
system with digital autopilot

Flight performances



Maximum take-off weight	13,500 kg
Cargo weight inside cargo cabin	4,000 kg
Cargo weight on external sling	5,000 kg
Hover ceiling / landing pad maximum height	4,000 m
Service ceiling	6,000 m
Range with main fuel tanks, not less	800 km
Range with additional internal fuel tank, not less	1,000 km
Range with additional 2 external fuel tank, not less	1,200 km
Maximum speed, not less	280 km/h
Cruising speed, not less	250 km/h

Assigned service life and TBO of major components

Description	TBO Flight hours / years	Assigned service life Flight hours / years
Fuselage	-	18,000 / 25
Engines	3,000 / 12*	9,000 / -*
Auxiliary power unit	1,000 / 12	3,000 / -
Main rotor blades 22880	-	9,000 / 12*
Main rotor hub	1,500 / 8	6,000 / -
Main gear box	2,000 / 10	6,000 / -

**The table shows target values*

High level of flight safety

Cable cutters

- Increased safety at low altitude flights

Dual fuel system

- Separate engine fuel supply
- Self-sealing main fuel tanks
- No service tank in the upper portion of the fuselage

Dual hydraulic system

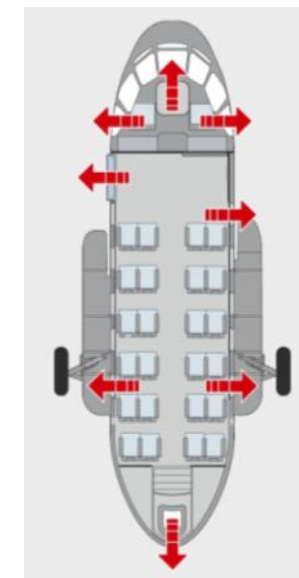
- Simultaneous operation of 2 fully independent systems
- Dual-chamber actuators

Emergency exits

- 7 emergency exits for safe abandonment of the helicopter in case of an emergency:
 - 2 emergency exits – Type III
 - 1 emergency exit – Type IV
 - 2 jettisonable cockpit sliding windows
 - 2 jettisonable sliding doors

Emergency equipment

- Emergency floatation systems
- Group and personal safety devices
- Emergency signal emitting systems



Efficient operation and maintenance system

- Maintenance without overhauls
- Reduced scope of scheduled maintenance
- Quick diagnostics and troubleshooting due to use of NASKD-200MB Multifunctional Testing System
- Failure prediction
- Increased service life of units and components



T-HUMS БАЛАНС НВ

	Ннв [°]	Упр [кп/ч]	Ну [п/с²]	Нх [п/с²]	Нмакс [мм]
Земля	60	0	0.1	0.3	--
Земля	95	0			
Висен	95	0			
Полет	95	100			
Полет	95	200			
Полет	95	220			
Полет	95	250			
НАЗ					

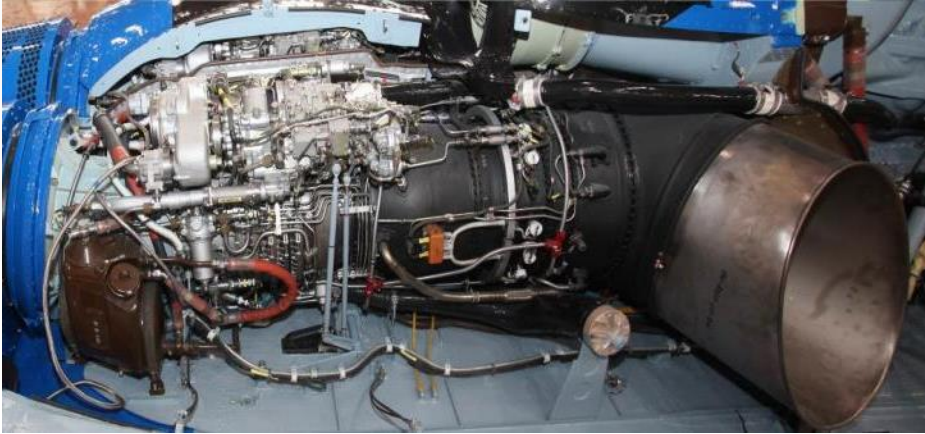
ЭПС

Helicopter baseline configuration



Power plant

VK-2500PS-03 Engines



- Emergency power rating is 2,700 h.p.
- Improved high-altitude and climatic performance
- Horizontal flight and continued take-off with OEI within 60 minutes
- Engine Digital Control System of FADEC type
- Maintaining the engine rpm in automatic mode on various flight modes
- Anti-surge control

APU TA-14-130-08



- Height of start is up to 5 000 m
- Time of continuous operation is up to 5 hours
- Powerful generator - 30kVA

or



- Height of start is up to 6 000 m
- Time of continuous operation is up to 6 hours
- Powerful generator - 20kVA

Rotor system

MR blades made of composite materials



- High efficiency when operated in high mountains
- Increase in main rotor thrust
- Increased speed
- Enhanced manoeuvrability
- Improved carrying capacity
- Corrosion-proof

X-shaped TR



- Improved yaw stability when flying in high-mountain conditions
- Augmented resistance to crosswind
- Reduced noise level

Reinforced transmission



- Increased maximum power transmitted to the tail rotor

KBO-17-1 Integrated flight and navigation system composition

- KSEI-V1 complex Indication and Warning System (5 MFD)
- ISRP-5-1 integrated system of backup instruments
- PKV-171A helicopter flight system
- SUOVO-V1-1 helicopter equipment management system
- Automatic direction finder/ equipment VOR/ ILS
- PVN-1-03 navigation computer control panel
- SRPBZ ground proximity warning system
- MBR-GA-01 series 1 small-size flight data collecting and recording system
- “Pulsar” Air surveillance system
- DISS-450 doppler system
- Kontur-10M weather RADAR
- DME-1 distance measuring equipment
- BFNI-1 map generator
- SO-2010 radar transponder;
- KSS-17-1 communication suite
- LTTM laser TV/Thermal imaging module
- KV-1 attitude and heading reference system



KOS-17-1 Day-and-Night Surveillance System



Forward looking TV/Thermal imaging system



Forward looking TV/Thermal imaging system



Aft looking camera

- Search and detection of targets in night time at a distance of 8 km.
- Search for fire area using thermal channel
- Round-the-clock surveillance of front/aft/lower sections of external environment
- Monitoring of taking up/taking down of rescuers and injured persons
- Monitoring of transport/rescue operations with the use of helicopter bucket, external sling and hoists
- On-board recording of video, audio, and operation data

Helicopter integrated flight system PKV-171A



- Automatic hovering over any surface (mountain, land, sea)
- Hovering in automatic mode when conducting:
 - Operations of rescue hoists
 - Dropping of water on seats of fire using helicopter buckets
 - Insertion of rescuers in hovering mode

DISS-450 doppler system



- Ensures stable hovering over any surface
- Possibility of operation over water surface
- Measurement of three ground speed vectors transversely to each other
- Drift angle calculation
- Generating and displaying of ground speed vector, speed modulus and drift angle on MFDs



Optional equipment

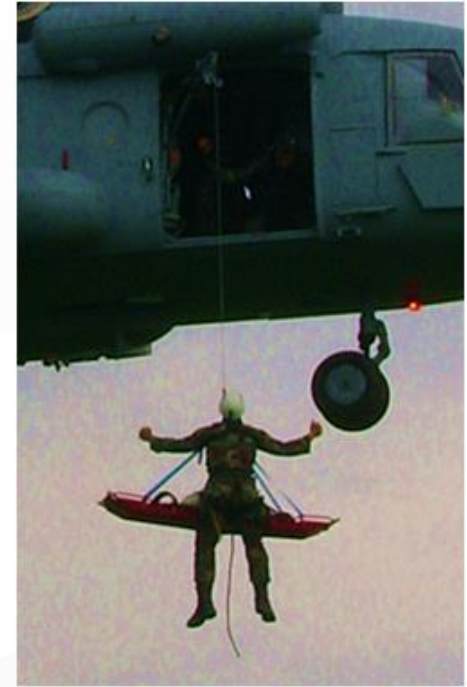
Cargo winch

(capacity up to 150 kg)



Cargo winch

(capacity up to 300 kg)



- Application when conducting SAR operations and evacuation
- Hoisting the rescuers and injured persons in hovering mode when conducting SAR operations
- Loading/unloading operations
- Wire cable tension and laying system
- Hoist digital control unit

TSL-1600 Search light



- Search operation at night time
- Illuminating range - 1,000 m

SGU-600 Signal loudspeaker device



- Warning and issuing commands by a helicopter crew via external acoustic systems during SAR and fire fighting operations

Medical module



- Evacuation of up to 2 injured on stretchers in emergency situations
- Provision of first aid medical care using medical equipment (including a full range of intensive care)
- Removal of easily removable modules in a short time (20 minutes)
- Wide range of medical equipment (defibrillator, electrocardiograph, aspirators, ventilator, pulse oximeter, etc.)

External cargo sling



- Capacity is 5,000 kg
- Weight measurement system
- Central rope length is 33 m
- Use of synthetic lanyards
- Bulky cargo transportation

VSU-5A helibucket (capacity up to 5 000 l)



- Water dropping over the seats of fire
- Setting of fire breaks
- Filling-up of water ground reservoirs and storages near fire areas
- Taking the water from open water reservoirs including high-mountain areas
- High accuracy of water dropping

Additional internal fuel tank



- Extending of range (to 1,000 km)
- Tank capacity is 915 litres
- Easy installation/removal

Additional external fuel tanks



- Extending of range (to 1,200 km)
- Each tank capacity is 915 litres
- Easy installation/removal

Emergency floatation system



- Provision of safe operation over water surface
- Helicopter floating for 30 minutes after ditching
- Floats inflation within 7 seconds

Group and personal safety devices



- ASZh-63P life-jackets



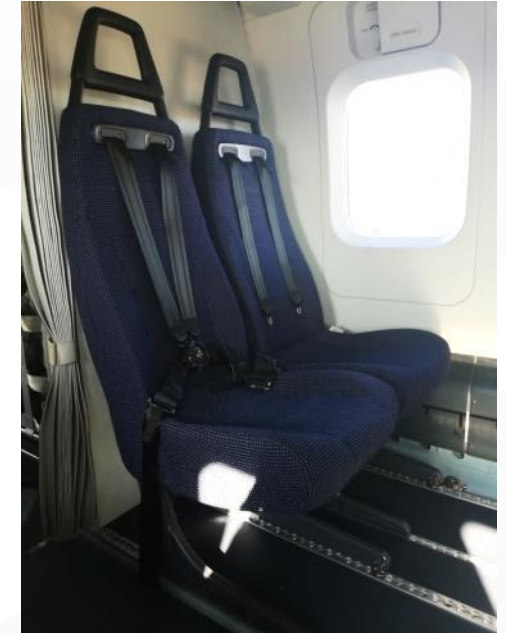
- Multiseater life rafts

Wire strike protection system



- Helicopter protection during low altitude flights from impact with electrical power lines

Fischer energy absorbing seats



- Transportation of up to 24 persons
- Ensures survival in case of “hard” emergency landing
- 4-point inertia safety belts
- Seat adjustment to anatomic features of pilots and passengers

After-sales service

JSC Russian Helicopters and JSC U-UAP provide:

- Warranty and post-warranty service
- Supply of spare parts, tools, and ground support equipment
- Overhaul and reconditioning repair
- Helicopter upgrade



Training and retraining of flight and maintenance personnel

- Certified aviation training center
- Helicopter training simulator for practicing piloting skills
- State-of-the-art computer technologies
- High-quality visual aids
- Teachers and instructors



Thank you for
attention!