



NAUDI

National Association of
Ukrainian Defense Industries



Limited liability company
"Scientific-production Enterprise
"AVIATION SYSTEMS
OF UKRAINE"

CARGO DELIVERY PARACHUTE SYSTEM MKS-350-9 AND OTHER MODIFICATIONS (AN-12B, IL-76, AN-22)

Aircraft velocity at the airdrop operation: not less than 260 km/h and not more than 400 km/h. The system can be dropped from altitudes ranging 300 m to 1500 m to the drop zones located at the altitudes up to 2500 m above Sea Level.

Vertical descent velocity: 6,6-8,1 m/s.

Gross Payload Weight: 3750-9500 kg.

Parachute system assigned life: 7 deployments with landing on the ground and 1 deployment with landing on the water. Assigned life: 12 years.

Weight: not more than 591 kg.

Dimensions of the Additional Drague Parachute Assembly packed for deployment: 0,30 x 0,30 x 0,60 m.

Dimensions of the Main Canopies Assembly packed for deployment: 0,36 x 0,57 x 1,13 m.

Parachute system packing time, by two people: 14 hours.

QTY of Main Canopies in the system- 5-14 pcs.

The system is designed for the aerial delivery of equipment and cargos on P-7 platform, as well as ofn the "Shelf" and "Shelf-2V" Parachute Platformless Systems.

Deployment procedure:

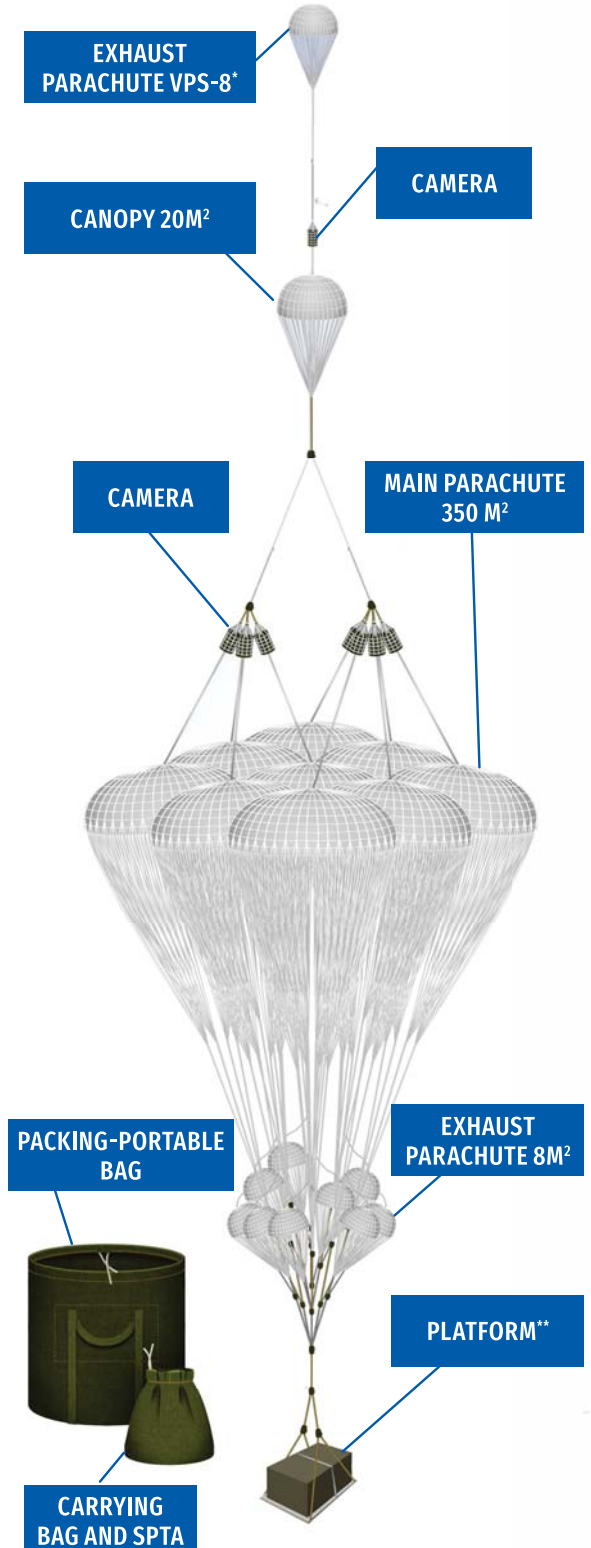
MKS-350-9 Parachute System is deployed by the VPS-8 drague parachute system. At the moment of the system exit from the aircraft, the Additional Drague Parachute is reattached and released. After leaving the aircraft, VPS-8 drague parachute system extracts the Additional Drague Parachute from the chamber. After being inflated, VPS-8 drague parachute system and the Additional Drague Parachute extract the brake and main canopies at their whole length. VPS-8 drague parachute system and the Additional Drague Parachute DVP stay attached to the system up to landing. At the moment of landing the MKS-350-9 Parachute System is disconnects from cargo with assistance of the AD-47U auto-release device.

Storage instructions:

The parachute system is allowed to be stored in a bag in a dry and well-ventilated room. Humidity should be in the range of 30-80%, temperature -30 to +30°C. Exposure to direct sunlight and moisture is not allowed during storage. During storage the system must be repacked, shaken up and ventilated at least once in 6 months. If installed in the aircraft located in the field the system should be protected from moisture and be repacked, shaken up and ventilated at least once in 3 months.

Materials:

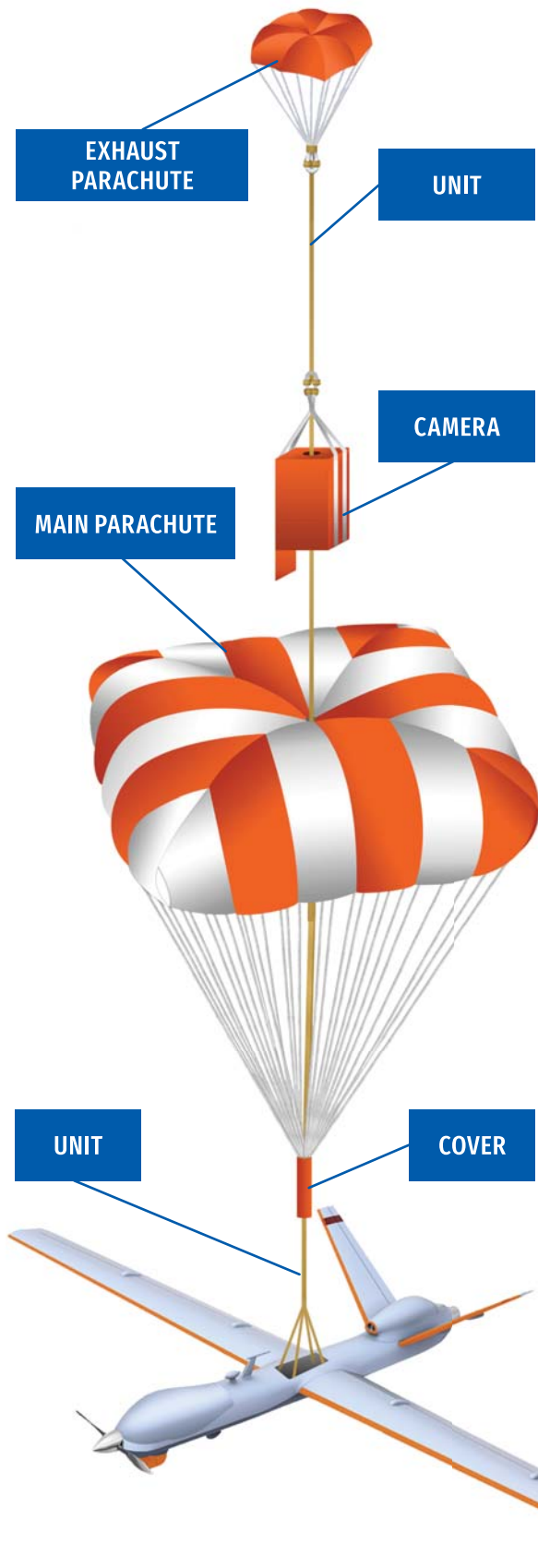
Parachute system is made of high-strength fibers impregnated with flame-resistant using modern Ukrainian and foreign materials.



* Exhaust parachute system VPS-8 can be supplied separately.

** Shock-absorb system 14P134-0104-0-M1 for parachute platform P-7 and system AS-2-M1 for parachute PBS-915 platform can be supplied separately.

THE RESCUE PARACHUTE SYSTEM SPS-12 / SPS-23*



The rescue parachute system SPS-12 / SPS-23 is intended for use safely back of UAV for such methods as “parachute” or emergency landing of the UAV.

The structure of SPS-12 / SPS-23 includes:

- exhaust parachute;
- camera;
- main parachute;
- connecting links;
- carrying bag.

Main technical characteristics of SPS-12/ SPS-23:

- area of exhaust parachute - 0,5 m² / 0,5 m²;
- area of the main parachute - 12 m² / 23 m²;
- the weight UAV - 40-60 kg / 100 kg (it is possible to manufacture under the order for the appropriate weight of the UAV);
- impact speed UAV - 5,5-6,5 m/s / 5,5-6,5 m/s;
- parachute weight - 1,2-1,5 kg / 1,2-1,5 kg;
- overall dimensions of the packed system - 320*180*80 / 400*220*100 (or under the order).

Scheme of work:

The rescue parachute system SPS-12 / SPS-23 is introduced by UAV operator or automatically, if it was provided.

The exhaust parachute opens by a wind stream. When it is filled, the camera is pulled out, in which the main parachute is laid. When the camera is removed from the main parachute, the filling occurs gradually to minimize the dynamic loads on the parachute attachment to the UAV.

Rules of exploitation:

After use, the parachute system must be shaken and dried if its wet. Drying is performed outdoors in the shade or indoors at a temperature not more +50°C.

Rules of storage:

The parachute system is allowed to be stored in a bag. Relative humidity of air should be in the range of 30-80%, temperature $\pm 30^{\circ}\text{C}$. Getting to the system of direct sunlight and moisture is not allowed during storage. Put the system in the camera immediately before using the UAV.

Materials:

Parachute system is made of high-modulus materials of Ukrainian production.

* on request any modifications are possible



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