



Palma

Mission

The Palma shipborne automated anti-aircraft artillery system with Sosna-R SAMs and 3V-89 small/medium-caliber artillery fire control system is designed for protection against anti-ship missiles, anti-radar missiles, guided aerial bombs, aircraft and helicopters as well as for engagement of small-displacement vessels and small-size sea and ground targets.

Composition

- 3S-89 gun mount with 3V-89 fire control system;
- up to four 3R-99E firing modules;
- Sosna-R SAMs;
- 3Ts-99 or Pozitiv-ME1 target acquisition radar system;
- 3A-99 or Delta hydro-stabilisation system;
- ground support equipment.

Features

- synergetic combination of gun/missile weapons such as high-precision Sosna-R hypersonic laser-guided missiles and AO-18KD rapid-fire automatic cannons.
- multichannel, high-precision and ECM-resistant electro-optical fire control system.
- fully automated operation cycle.
- high jamming immunity, and operational covertness thanks to absence of demasking HF radiation.

The 3R-99E fire module composition: 8 Sosna-R SAMs in TLCs and two 30mm AO-18KD rapid-fire six-barrel automatic guns.

The fire control system includes TV- and thermal-vision channels, laser range-finder, laser-beam missile guidance channel and missile direction finder.

Configuration

- from one to four 3R-99E fire modules, target acquisition system, gyrostabilisation system;
- only 3R-99E fire modules.

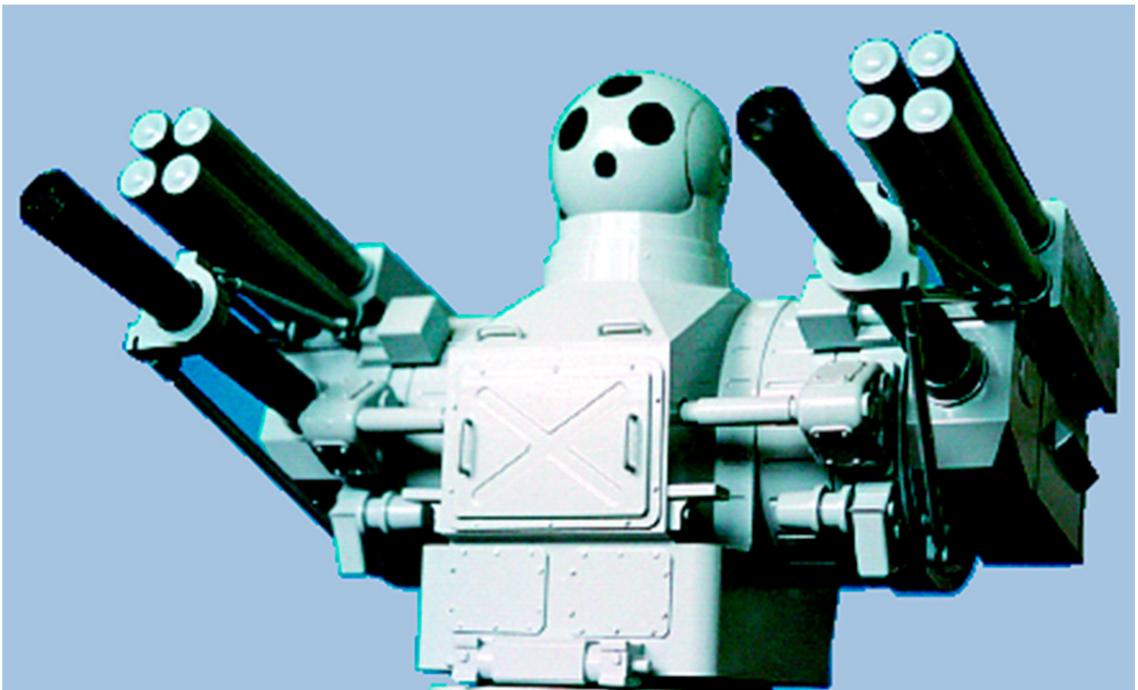
Main characteristics:

- Target engagement range, m:
 - with missiles: 1300-10000



- with guns: 200-4000
- Target engagement altitude, m:
 - with missiles: 2-3500
 - with guns: up to 3000
- Gun rate of fire, rds/min: up to 10000
- Gun ammunition types: APDS, HEFI and practice projectiles
- Combat module weight, (including ammunition load), kg: 6900
- Into-action time, s: 3 - 5
- Control system:
 - main: electro-optical
 - backup: radar
- Missile flight time (at 5-8 km range), s: 6,0-11,5
- Lateral g-load factor: up to 40
- Max missile speed, m/s: 920
- Warhead: fragmentation-rod warhead with adaptive explosion time
- Fuse: 12-ray proximity laser sensor
- Weight, kg:
 - missile with TLCs: 38
 - warhead: 6
 - Length, m: 2275
 - Diameter, mm: 72







ROSOBORONEXPORT

Russian Federation, ROSOBORONEXPORT,
27 Stromynka str., 107076, Moscow,
Public Relations and Media Service
Phone: +7 (495) 534 61 83;
Fax: +7 (495) 534 61 53
www.roe.ru

