

Deylaman new generation of Iranian destroyers

Deylaman is the latest model of the Mowj-class (Wave-class) destroyers that have been domestically developed in Iran. On Monday, November 27, 2023, the Iranian destroyer Deylaman joined the Northern Fleet of the Army Navy during an official ceremony that was held in Anzali Port in the presence of the Chief of Staff of the Iranian Armed Forces Major General Mohammad Hossein Baqeri.

National desk

A momentous family

Wave-class destroyers are approximately 94 meters long and 11 meters wide and weigh between 1300 and 1500 tons.

The first in line was the Jamaran destroyer, which joined the southern fleet of the Islamic Republic of Iran Navy in 2009. Jamaran's equipment was changed and upgraded in the following years. At the time of its unveiling, Jamaran was equipped with anti-ship cruise missiles, naval artillery, torpedoes, defensive missiles, and 3D radar systems. Damavand was the second Wave-class destroyer built with the same equipment as the Jamaran destroyer. It joined the Northern Fleet of the Army Navy in 2014. Damavand was similar to Jamaran in terms of its physical and weapon features, but the notable feature of Damavand was that it was the first destroyer of the Islamic Republic of Iran in the Caspian Sea.

The third Wave-class destroyer in the Army Navy was Sahand. Jamaran and Damavand were built by the Defense Ministry's Marine Industries Organization, but Sahand was built in the Army Navy factories for the Southern Fleet. It was the first Wave-class destroyer to be fitted with a Kamand close-in (point-defense) weapon system that could protect itself and its accompanying units from low-altitude threats such as cruise missiles.

Sahand was different from Jamaran and Damavand in its body design as well. In its design, Sahand achieved more concealment and less radar reflection by making the body surface uniform. Furthermore, larger helicopters such as the SH-3 can land on Sahand's bigger flight deck, making it more advantageous to send Sahand instead of Jamaran and Damavand when the mission calls for carrying larger aircraft. Sahand, like Damavand, is equipped with anti-ship cruise missiles, naval cannons, torpedo launchers, anti-aircraft guns and missiles, and various electronic warfare and radar technologies.

Dena was the fourth generation of the family of homegrown destroyers. It can and has undertaken a 360-degree mission as part of Iran's 86th naval fleet, which brought this destroyer world-

class fame. The weapons outfit of the Dena destroyer is the same as Jamaran and Damavand, with the difference that Dena is equipped with more advanced electronic warfare systems.

Damavand destroyer joined the Northern Fleet of the Army Navy in 2013 but was rendered out of service due to an accident in July 2018. After that, the construction of a new destroyer in the Caspian Sea was added to the agenda of the Army Navy and the Ministry of Defense. However, the development of Iran's technological and manufacturing capabilities in the marine industries over the past years prompted the experts of the Iran Navy and the Ministry of Defense to design a more advanced version of the Mowj-class destroyers. This led to the birth of the Deylaman destroyer, which is the most advanced and best-equipped destroyer produced by the Islamic Republic of Iran so far.

Leap in radar capabilities

The Deylaman destroyer features a phased array radar system, the most up-to-date radar system that has ever been installed on Iranian destroyers. It has the ability to detect and intercept surface and air targets such as airplanes, drones, helicopters, and surface vessels. What is more, it can guide surface-to-surface and surface-to-air missiles.

The main advantage of this radar system compared to that of the Jamaran and Damavand destroyers or the AWS radar of other Wave-class destroyers is that it does not need to rotate. This allows the components of the radar to be removed, which facilitates its maintenance and reduces related costs.

Each of the four array faces of this radar has 1000 elements, which amounts to four thousand radar elements in total. The system has the ability to track several targets simultaneously because the update rate of this radar is a fraction of a second.

Among other prominent features of this radar are its unique capabilities for electronic warfare and electronic counter-countermeasures (ECCM) including transmitting random pulses, switching quickly between frequencies, jamming analysis (electronic warfare), sensitivity time control (STC), compressing pulses, and rapidly changing

the pulse repetition frequency.

Another difference between Deylaman and other Wave-class destroyers is in their engines. Deylaman has four engines with four separate shaft lines and propellers, which gives it greater mobility and maneuverability in the Caspian Sea.

Using this power, Deylaman can sail up to a maximum speed of 26 knots. Another advantage of Deylaman over other Wave-class destroyers is its weapon outfit and configuration. Deylaman can be called the most armed destroyer produced by the Islamic Republic of Iran so far.

Compared to other destroyers of the Mowj class, Deylaman's mast is designed differently as well. The mast of this destroyer has a four-sided and uniform design.

Enemies beware

Its weapons outfit covers the four areas of subsurface, surface-to-surface, surface-to-air, and anti-missile warfare. In the subsurface area, Deylaman is equipped with three torpedo launchers on its fantail. The destroyer can use these torpedoes to deal with various surface and subsurface targets.

In the field of surface combat, Deylaman holds the record for carrying the most cruise missiles among Iranian destroyers because they each carry a smaller number of anti-ship cruise missiles. It relies on having a suitable number of Qadir and Qader anti-ship cruise missiles on board. Deylaman can also use domestically manufactured naval cannons for surface combat, but that is not unique to this generation of Iranian Wave-class destroyers.

The same level of similarity cannot be found in the field of air defense as this destroyer is supposed to be the first Wave-class destroyer to be equipped with a vertical launching system (VLS) for air defense. The system is supposed to be installed in the forecastle of Deylaman in the near future. The destroyer also enjoys an advanced surface-to-air missile system, which is going to be installed soon. This system is capable of engaging air targets at range to keep the destroyer and the crew members safe from aerial threats. Moreover, a point-defense system has been installed on the fantail of Deylaman to

protect the destroyer against low-altitude threats such as cruise missiles. As a Gatling gun, this weapon system has a very high firing rate.

In the field of anti-missile warfare, Deylaman is also well-equipped and can shoot and deflect missiles fired by the enemy. However, this is not a capability that Deylaman does not share with other generations of domestically-made Wave-class destroyers.

In general, it is quite evident how advanced and prominent Deylaman is, both in its design and subsystems. After all, it belongs to the latest generation of Iranian Wave-class destroyers that were already making waves.

