

# RESUS

## An Emergency System for Submarines



Control and Test Unit



Diving Depth Measuring Device



Remote Starting Device



Cable Distributor



Gas Generator INGA

RESUS (REscue System for SUBmarineS) is a system to ensure rapid surfacing in an emergency situation. It was developed by EADS Space Transportation GmbH on the basis of space thruster technologies.

RESUS provides a strong countermeasure to all kinds of submarine emergency situations, especially when the craft is submerged.

In emergency situations RESUS is designed to empty the Main Ballast Tanks (MBT) of the submarine at all diving depths within a very short time, working independently from other on-board systems.

RESUS consists of a number of gas generators and electronic components to activate the system as well as to control and test the system integrity. The gas generators (GG) are installed in the forward and aft MBTs. Remote starting devices are located at several positions along the boat. Thus RESUS can be put into operation without any delays.

The gas generators produce a hot gas that is cooled and guided to the top of the MBT.

This provides enormous buoyancy, stabilising the submarine attitude immediately and raising the boat safely to the surface. The gas generators in the aft MBT stabilise the boat when surfaced.

The gas generators are activated from the control and test unit by release of a pyro valve (liquid fuel generator) or electrical pulses (solid fuel generator).

RESUS has been standard equipment on board all German submarines for over 20 years.

RESUS has been installed on many submarines of classes 206A, 209, 212A and 214.

RESUS can also be retro-fitted to Russian submarines 877 EKM (Kilo Class).

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