MACS3 For Tanker Vessels

The ocean transport of different types of wet cargo is a high-risk and challenging task for the crew of a tanker vessel. Cargo can become off-spec or react with other types of chemicals or oil products. Careful planning and monitoring of cargo operations is required.

MACS3 loading computer provides reliable stability calculations, enables on-board stowage planning and cargo operation monitoring for all types of liquid cargo to be carried on different types of tanker vessels.

MACS3 considers ship design, special cargo requirements according to IBC code and other international standards and charterer's voyage instructions to ensure that chemicals and oil products are loaded, carried and discharged safely.

MACS3 covers a wide range of calculations related to hydrostatics, intact stability, longitudinal strength, drafts and trim. It is approved by the world's leading classification societies. Ship crews can rely on adherence to the current IMO regulations and regular updates with regards to dangerous goods.

BENEFITS

✓ MACS3 tanker versions are available for crude oil, product, chemical, LNG and LPG tankers

✓ Type approval from all major classification societies for intact and damage stability and strength

✓ Simulation of cargo operations including real-time monitoring of loading, unloading and ballasting sequences

✓ Various dangerous goods checks according to IMDG, IBC, and CHRIS

✓ Ullage report with cargo calculation trim, heel and temperature correction by ASTM tables or linear correction

✓ Blending calculation for crude oil

✓ Fixed volume and fixed weight mode for loading, unloading or sailing operation

✓ Last cargo record to keep track of history of cargo per cargo tank

✓ Various monitoring feature like time remaining for tank filling, critical temperature to overflow etc.

FEATURES

MACS3 for tanker vessels meets the special requirements of various types of tanker vessels by providing various ship-type-specific modules.

MACS3 BASIC

✓ Graphical tank plans of the vessel showing current conditions

✓ Optimization of trim, heeling, stability and stress for ballast tanks

✓ Loading conditions and calculations, which can be saved and retrieved

✓ Provides online help, user warning points and a tank online interface to tank automation systems

✓ Specific tank window

✓ Cargo temperature and volume correction factor (ASTM based)

✓ Cargo accounting by mass flow calculation

✓ Indication of fixed volume or fixed weight

✓ Compatible with emergency schedules (EMS)

✓ Last Cargo provides a cargo history per tank to avoid cargo contamination

✓ Vessel Experience factor calculates the cumulated deviation of vessel and terminal ullages reports
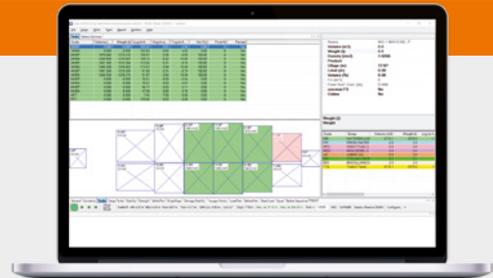
Graphical tank window

ADD-ON MODULES

✓ **Dastyman** provides damage stability calculation according to IMO, MARPOL, IBC, and SOLAS.

✓ **Loadman** optimizes cargo distribution and simulation of loading and unloading sequences.

✓ **Ullage / LPG / LNG report** provides precise cargo tank volume data for billing purposes by temperature and density correction based on ASTM tables 54, 6, 23, 24 as well as linear correction. In addition, it includes water dip correction and blending calculation for tankers transporting different sorts of crude oil.

✓ **Tank Online** includes ullages, temperatures and pressures, etc., in order to enable real-time monitoring of loading and unloading sequences. It also generates pump reports.

✓ **Dangerous goods** for tanker vessels in accordance with IBC, CHRIS, IGC and IMDG codes includes:

  ▪ DAGO I including cargo segregation check, tank property check against cargo properties, and print-out of cargo specific requirements

  ▪ DAGO II fire fighting and safety plan

  ▪ DAGO III medical first aid guide (MFAG)

  ▪ Company specific rules, includes emergency schedules, firefighting and safety plans

Ullage report

REFERENCES

The onboard loading computer MACS3 is in use on a wide range of container vessels, multipurpose vessels and bulk carriers as well as on tanker vessels, roro vessels and passenger vessels.

Established in 1994, the ship library includes more than 4,500 ship profiles. For the container vessel segment, MACS3 holds a share of approximately 65%. More than 500 vessels run onboard stability calculations and cargo planning with the MACS3 tanker version.

In addition, maritime colleges and universities worldwide teach future nautical officers with the MACS3 loading computer.

If you have any enquiries or would like to set up an appointment with one of our sales representatives, please phone or e-mail us:

📞 +49 461 43041-0   ✉ loadingcomputer@navis.com   **www.navis.com**