



# Dynamic Marine Systems

Ahead in stabilisation



## DMS MagnusMaster

**INTRODUCTION TO DMS MAGNUMMASTER**



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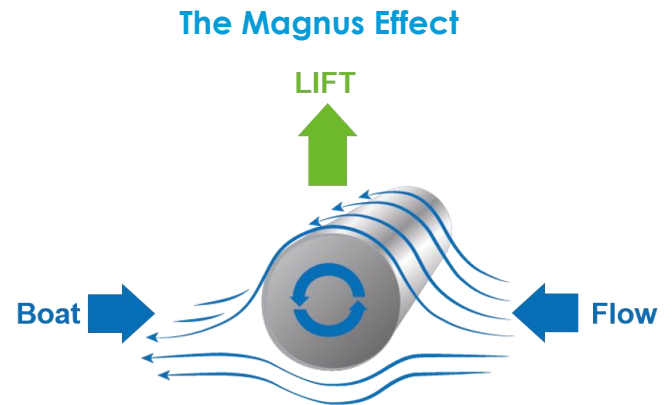
**A NEW GENERATION ROTOR STABILISER:**

DMS MagnusMaster is an ‘All Electric’ roll damping stabilisation system ideally suited to low speed displacement and semi-displacement motor yachts up to 30 meters. The system combines state of the art, high-end technology and the latest stability algorithms to provide unrivalled roll damping from as low as 3 knots and up to 12 knots of boat speed. MagnusMaster uses a universal law of nature, the Magnus effect, discovered and documented by Heinrich Gustav Magnus.

For the sake of clarification and to explain how the Magnus affect utilised in this type of rotary stabiliser works, by definition;

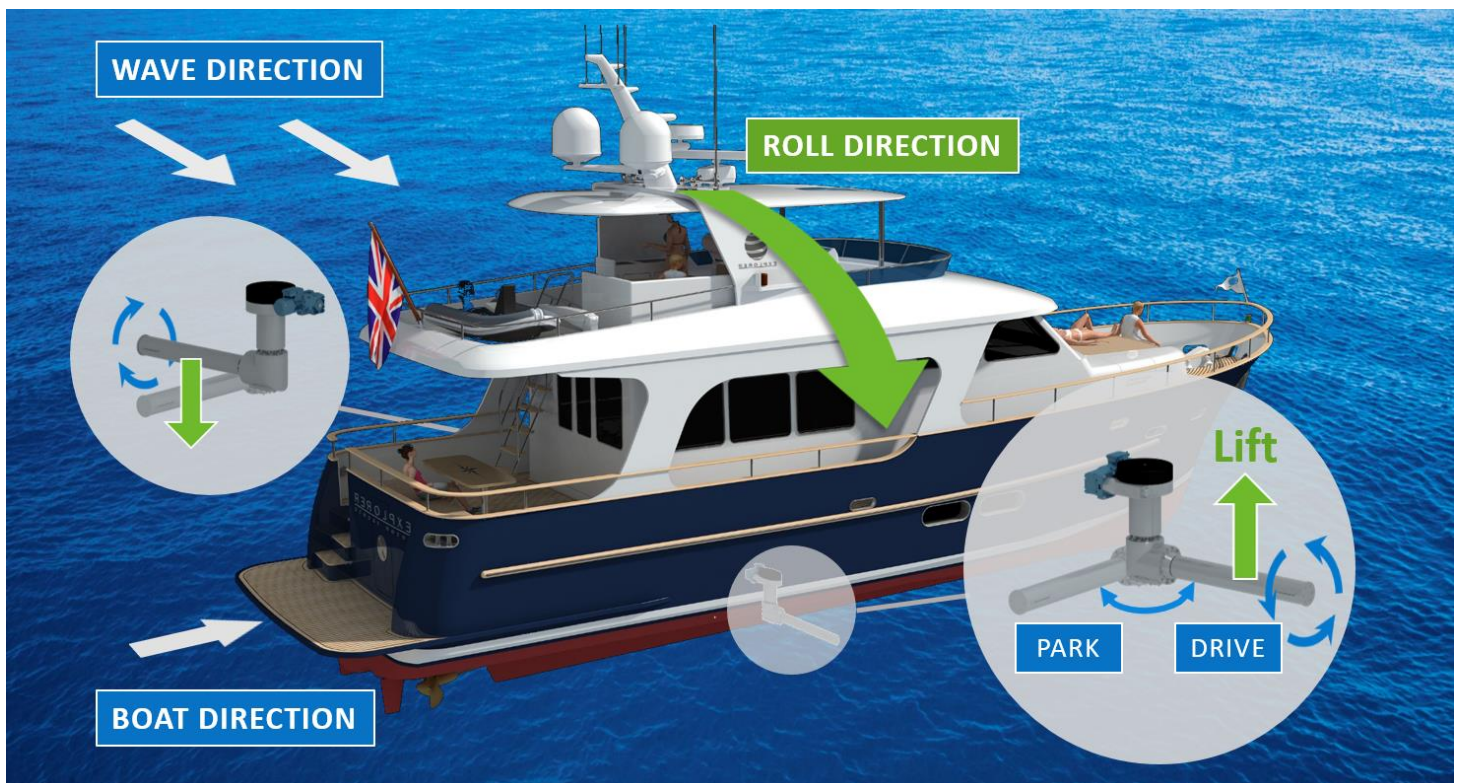
“If you pass a rapidly rotating smooth object through a fluid medium (whether that medium be a liquid or indeed air) a resulting force is created on the object causing its path to be deflected. The direction of the force will depend on the relative direction of rotation of the object and other factors”.

Whilst a simplified explanation, in a marine application it is the movement of the vessel through the water that produces flow over the MagnusMaster rotor(s) which in turn produces either an upward or downward force depending on the direction of rotation of the rotor.



Technically perfected by DMS Holland and equipped with new features and innovative stability programming, the DMS MagnusMaster is quite simply incomparable with other systems due to its advanced engineering, versatility of installation and simplicity of operation.

DMS MagnusMaster can be supplied as a single, twin or even 4 rotor system. The choice of which system is best for any individual boat will generally depend on vessel displacement, hull form and individual vessel stability characteristics.







## MAIN FEATURES:

- Effective stabilisation typically from 3 to 12 knots
- Full colour touch screen monitor
- Compact & easy to locate
- No steering effect (even transom mount is possible)
- Easy installation & almost no maintenance
- High static heel (best in following seas)
- Fully CAN bus for robust communication
- NMEA interface with Raymarine electronics

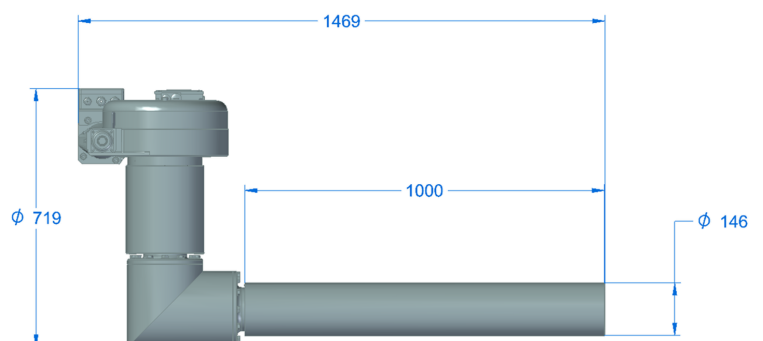
## MAIN FEATURES:

- High damping (also at low speed)
- Easy to operate (simple 'Stabilise' or 'Park' functions)
- 3 term controller (angle / velocity / acceleration)
- High momentum (for increased damping)
- Extensive diagnostics (remote access if required)
- Retractable (less vulnerability to damage)
- Retracts automatically (also in neutral and reverse)
- Virtually silent operation (all electric system)



## SPECIFICATIONS:

- Maximum power: 1500W (per rotor)
- Average consumption: Less than 1000w (per rotor)
- Rotor material: Carbon
- Elbow material: Steel with advanced coatings
- Shaft material: Stainless steel
- Integral manual emergency operation
- CAN bus operation
- NMEA interface with Raymarine electronics
- Easily powered by suitable inverter (or generator)



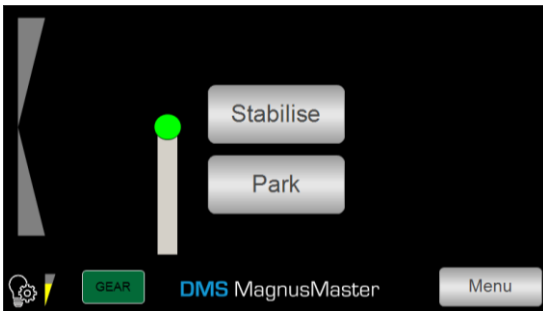


## IDEAL FOR NEW BUILD OR RETROFITTING:

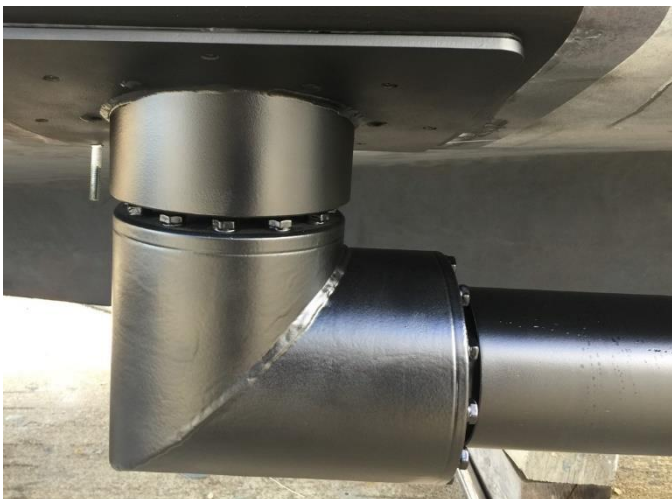
DMS MagnusMaster rotor stabilisation is increasingly becoming the system of choice for many new build production motor yachts as well as for one off specialist projects. Whether a single, twin or even 4 rotor system (depending on the length, displacement and characteristics of the boat), shipyards are finding its versatility of positioning, compact size and ease of installation makes it a far more viable option than many other fin or gyro systems. Owners are not only attracted to MagnusMaster for its superior low speed performance, but also for its quality, reliability and pure simplicity of operation when they want to use it.

Thanks to all the above factors, MagnusMaster is also ideally suited to retrofit applications and, as an all electric system, there is no need to install complicated hydraulic packs. It is so compact and versatile in its positioning that a suitable location can almost always be found without major upheaval or alterations to the engine room or interior. In most cases, once the hull preparation has been made, installation from start to finish can be completed in a matter of a few days with the minimal of disturbance to existing systems.

MagnusMaster operation is completed from the full colour, touch screen monitor which is usually located at the helm position. For flybridge vessels a second monitor option is available. Operation is as simple as pressing 'Stabilise' or 'Park', and whilst there are a host of other control menus behind this, for day to day operation following commissioning, these are the only functions you will use. From pressing 'Stabilise' to the rotor being fully powered out and working about is less than 15 seconds.



Service on MagnusMaster is minimal with very occasional greasing of the upper mechanism (via external, easily accessible grease nipples) and seal changes in the leisure market being set at 5 years (or equivalent in a commercial application depending on hours operational).





## INSTALLATION:

This photograph shows a typical MagnusMaster installation on a steel hull. This example could equally apply to a GRP, aluminium or even a wooden yacht installation. It shows clearly that the MagnusMaster unit is exceptionally compact and versatile in its' placement.

Top left of the photograph shows the main control cabinet. This houses all the control electronics (including the motion sensor) for the complete MagnusMaster system whether a twin or single rotor installation.

This can be mounted anywhere in the vessel either upright or even on its back. On commissioning the system is programmed accordingly to account for how the control cabinet is orientated within the vessel.



The control cabinet does not have to be in the same location/vicinity as the primary motor drive unit as long as appropriate connecting cable lengths are pre-determined prior to order.

It must be pointed out that unlike a fin stabiliser installation, the MagnusMaster Rotors DO NOT have to be in the mid-ships area of the vessel. This greatly increases possibilities for installation both on new build or retrofit especially where interior space is at a premium.

## MAGNUMMASTER SAFETY:

In the event a rotor is impacted by an external force or damaged in service by debris at sea, the lower external swivel knee and rotor mechanism are secured by a series of shear bolts within the upper internal housing thus preventing potential impact damage to the surrounding hull area (this is not the case with many fin stabiliser systems). Should this happen, the lower 'knee' and rotor assembly remain in place for later repair.

In a twin or 4 rotor installation you can access an internal system menu in the monitor and isolate that individual rotor assembly, shut it down and continue cruising with slightly reduced performance from the remaining rotor(s).

As an active stabilisation system MagnusMaster provides optimal stabilisation between 3 and 12 Knots. At 12 knots the system automatically retracts the rotor(s) to the stowed or park position with the rotor 'Parked' along the vessel length and within the vessel maximum beam. The rotor(s) only deploy (power out to 90 degrees) when in stabilisation mode.

The rotor(s) also self-retract (Park) when the engines are put into neutral or pass through neutral going into reverse. They will only deploy again when you press 'Stabilise'.

## MAGNUMMASTER FACTS:

DMS MagnusMaster is manufactured in Holland by Dynamic Marine Systems BV. DMS are the stabilisation market leaders in the Netherlands with a range of products. To date DMS have supplied approaching 500 rotors to all brands and construction types with DMS MagnusMaster. In all, over 350 systems, single, twin and 4 rotor installations are in active service worldwide.

MagnusMaster is a proven design developed to be simple to operate, reliable, robust and constructed using only the best parts and materials available. It provides exceptional roll damping in the most severe of conditions as was demonstrated by one of our owners with a 4 Rotor system that completed a Southern Capes Circumnavigation.





Images:





**Images:**





**Dimensions:**

