

*Less Motion ...  
More Ocean ...*



**VEEM**  
Gyro



## *What is a gyro stabilizer?*

The VEEM Gyro is an actively controlled vertical axis gyro stabilizer delivering excellent rolling motion attenuation while the vessel is at anchor or underway.

It consists of a flywheel mounted in a gimbal frame allowing two of the three possible rotational degrees of freedom.

Because a gyro's roll stabilizing torque is created by the rolling motion itself, there is absolutely no time delay, or lag, between the wave induced rolling motion and the

stabilizing torque produced by a natural precession gyro stabilizer.

The VEEM active control system maximizes roll reduction as sea and vessel running conditions vary. With active control, a smaller unit can provide the same performance as a larger, passive gyro system. The active control system also ensures that VEEM Gyro is safe to operate in all conditions.

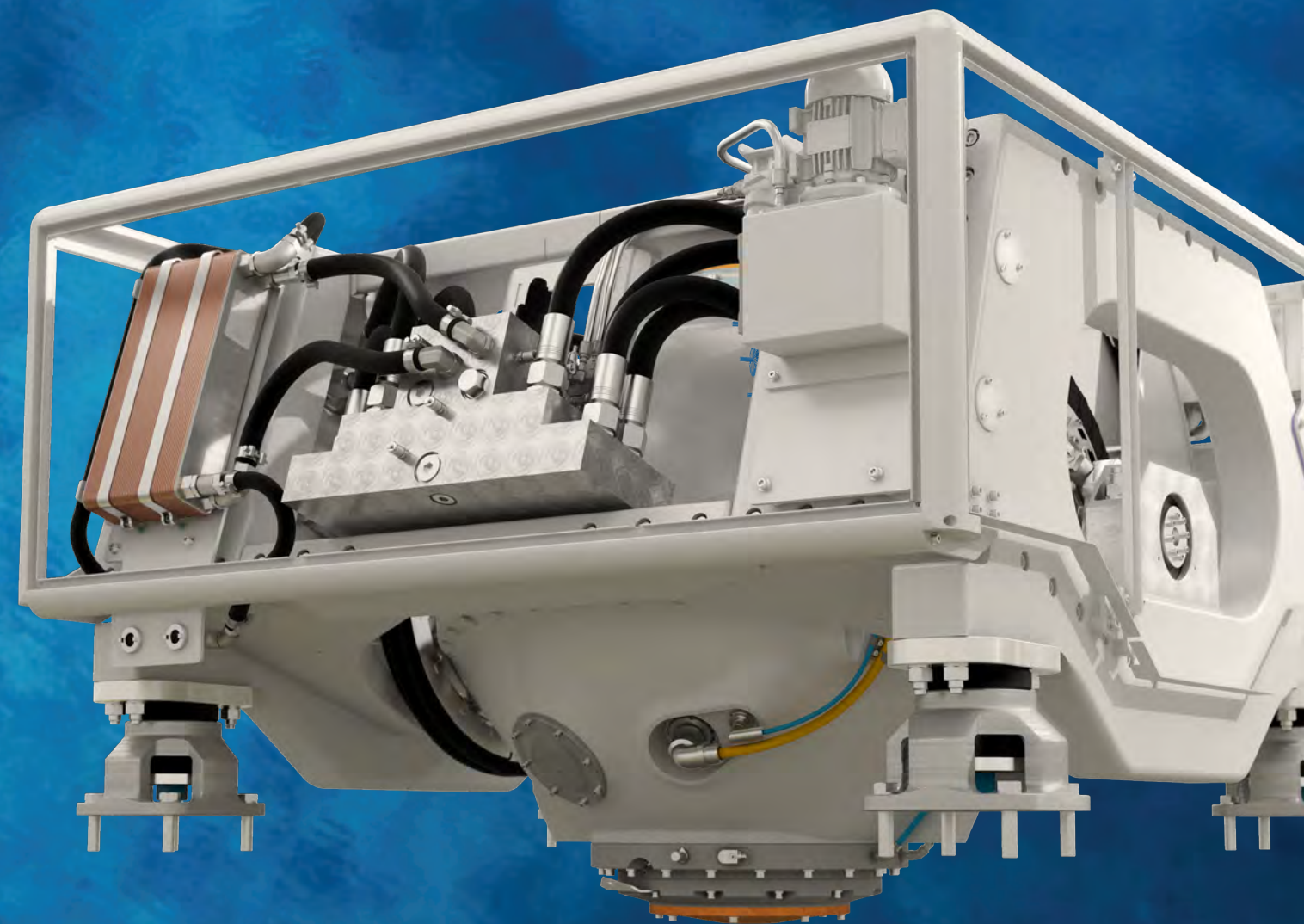
## *The latest technology in stabilization*

Being aboard a super yacht should be an enjoyable experience from the moment you arrive to the second you step back on to dry land. Regardless of whether you are at anchor or underway, the comfort of you and your guests is of the utmost importance.

Wave motion is one of the few external forces which has the capacity to negatively impact your time on board, regardless of the size of vessel. What's more, even the most sheltered harbours can suffer unpleasant wave induced motion, causing discomfort and sickness in many.

After years of research and development we are delighted to be able to offer our customers the opportunity to join the stabilization revolution that is the VEEM Gyro.

Reflecting our unwavering passion for beautiful design and representing a combination of both engineering and manufacturing excellence, the new range offers a genuine revolution in performance compared to existing stabilization systems.







## *More peace of mind*

Some of the most popular activities while on a super yacht involve enjoying the water around the vessel. Whether swimming, snorkeling or diving around the boat, whilst in the water the safety of your guests must be assured. This is especially important if the yacht is available for charter.

Unlike 'at rest' fin systems, the entire VEEM Gyro stabilizer system is located within the yacht. There are no large external appendages posing a potential danger to swimmers, divers or marine life in the vicinity.

## *More memories*

Those moments of happiness, experienced whilst enjoying the hard won fruits of our endeavors, create lasting memories that we carry forever.

You can now ensure that these experiences are enriched by the higher levels of safety and comfort that are provided by a VEEM Gyro.



An aerial photograph of a white motorboat with a dark stripe, cruising on clear, vibrant blue water. The boat is positioned in the upper right quadrant of the frame. In the lower center, there is a large, rugged rock formation with some sparse green vegetation on top. To the left, the rocky shoreline is visible, with various sized rocks extending into the water. The overall scene is bright and serene, showcasing a beautiful coastal environment.

## *More enjoyment*

VEEM Gyros offer up to 95 per cent roll attenuation at anchor or underway. This ensures you get to dine, travel and experience amazing locations in comfort. You can soak in the view without the rolling motion ruining the experience for you and your guests.

With a VEEM Gyro on board, you and your guests will be able to experience ultra smooth motion in amazing locations around the world with whisper quiet operation (sound levels on some models as low as 66dBA).

## *More locations*

Some of the world's most incredible, unspoilt locations are only accessible by boat, while others are simply more impressive when viewed from the water. Some are found in tranquil inlets and coves, whereas others can be more exposed to waves and strong currents.

VEEM Gyro gives you the freedom to explore every corner of the globe in total comfort and free from annoying rolling motion, enabling you and your guests to focus on enjoying the idyllic surroundings.



# The most advanced and powerful gyro stabilizers

## CONTINUOUS USE

VEEM Gyros provide significantly higher stabilizing torque and angular momentum than any other stabilization product in the market.

Unlike its competitors, the VEEM Gyro offers significant roll reduction in rough sea conditions and delivers up to 95% roll reduction at anchor and underway.

## EFFECTIVE AT HIGH SPEEDS

Recording significant roll reduction at speeds of even 40 knots, the VEEM Gyro units have been built to withstand even the roughest conditions - with high pressure hydraulics, a significantly longer bearing life and self-regulating software.

## WHISPER QUIET

Generating an extremely low 66 dBA on some models, the VEEM Gyros have reset the sound level benchmark for gyro stabilizers. This opens up a variety of mounting options including outside the engine room.

VEEM Gyros also feature an energy saving mode for quiet night time operation, so you and your guests can enjoy a peaceful sleep while the gyro reduces the roll and operates quietly in the background.

## NO DRY DOCKING EVER

VEEM Gyros are fully maintained inside the vessel. This means no dry-docking for maintenance or even a complete overhaul - ever. Long-life bearings means maintenance costs will be significantly reduced.

## WEB-BASED, ADVANCED TOUCH-SCREEN SOFTWARE

All VEEM Gyros are able to be web connected to allow remote phone support, data download and diagnostics. This can be managed at VEEM's Support Base and/or by the owners team.

## INCREASED SPEEDS AND EFFICIENCY 'AT REST'

Choosing a VEEM Gyro instead of fins almost always comes with the gift of increased max speed, and reduced fuel burn. The weight of the gyro balanced against the drag of the fins is a net gain for the yacht.

## HEAVY DUTY BEARINGS

Long life bearings (12,000 - 60,000 hours) and other components mean that your yacht will withstand rough conditions and perform perfectly for longer. VEEM Gyro has the lowest through life maintenance costs of any stabilization system.



# Roll reduction performance

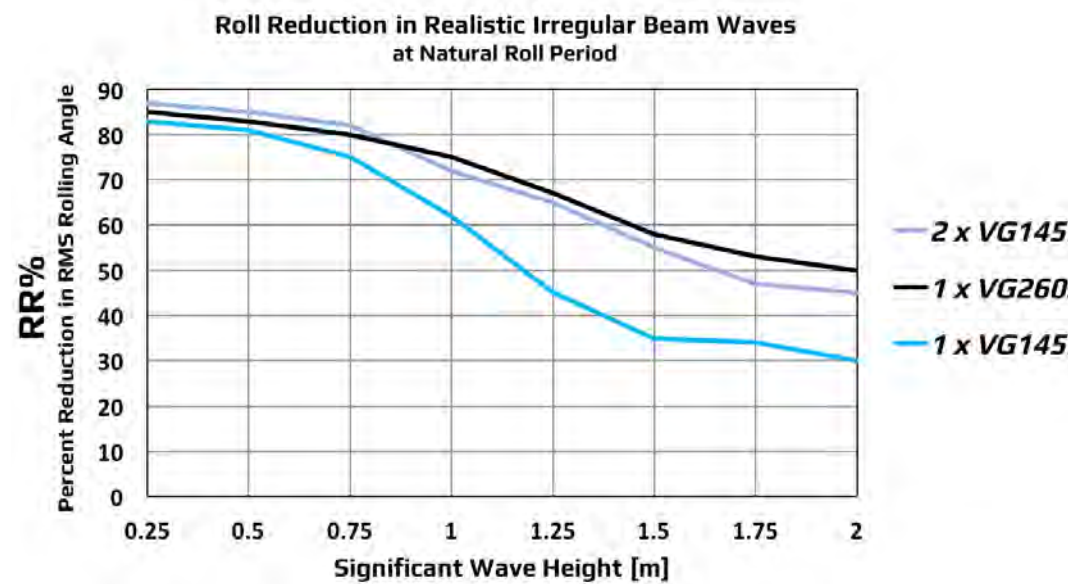
VEEM Gyro provides a simple performance prediction for a project considering various possible gyro installation options. Once the level of required roll reduction is understood and agreed, a detailed rolling motion numerical simulation report is generated. This detailed report is prepared using VEEM's proprietary numerical simulation tool called GyroSim. Expected roll motion reduction across a range of wave periods and wave heights is presented on a single color contour plot.

## Gyro sizing calculator

The performance prediction chart below presents the expected roll motion reduction in realistic irregular beam seas at zero speed, in waves near resonance. Roll reduction is the percentage reduction in RMS roll angles when the gyro is active. The significant wave height is the wave height that an experienced mariner will observe. Technically it is the average of the 1/3rd highest waves.

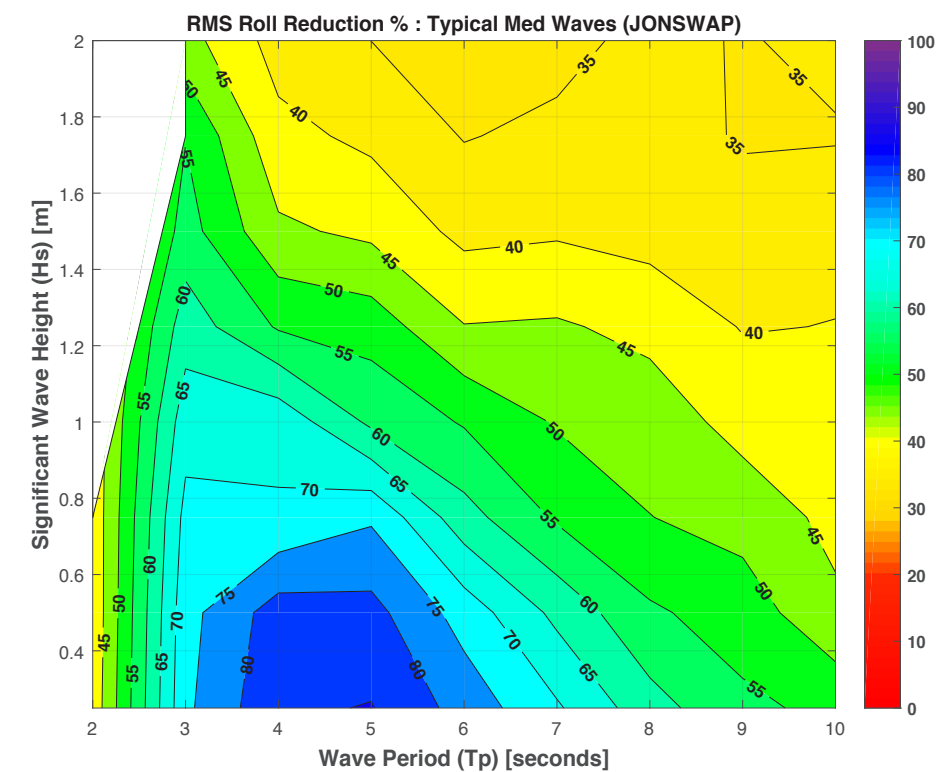
Either the JONSWAP or Bretschneider realistic irregular wave models can be used. The JONSWAP model is typical of waves on the North Sea, whilst the Bretschneider model is more suited to open ocean waves with long fetch. The peak wave period used in the wave model is the natural rolling period of the vessel. When the wave period approaches the vessel roll period, 'resonant rolling' results. This causes the largest and most uncomfortable rolling motions, which lead to seasickness, discomfort, loss of productivity and increased risk.

Multiple potential gyro installations are charted together on this simple chart to allow selection of candidate installations.



# Numerical rolling motion simulation

The chart below has been created by running a large number of irregular wave time domain simulations of the vessel in various combinations of wave height (Hs) and wave period (Tp). The percentage reduction in RMS roll angle for each time series signal is then calculated until an array of data is available for all wave heights and periods on the chart. The percentage RMS\* roll angle reduction (RR%) achieved by the VEEM Gyro is then plotted as contours.



To discover what roll reduction is expected on any given day, a vertical line should be drawn from the wave elevation period on the horizontal axis and a horizontal line from the significant wave height (Hs) on the vertical axis. Where these two lines meet, the predicted roll reduction can be read from the contour colour at that point.

The wave period presented is the 'peak' period from the wave spectrum used to generate the wave time series in the simulation. The wave height is the 'significant' wave height used to generate the wave elevation time series in the simulation. The 'significant' wave height is defined as the average of the 1/3rd highest waves that occur during the simulation. Traditionally, this is considered to represent the wave height that a professional mariner will report by observing any given sea condition.

\* RMS or 'root mean squared' is a measure like an average for a dynamically oscillating signal.



*[now upgraded]*  
**The VG120**

The VEEM Gyro 120 is the most advanced and powerful stabilizer available for smaller super yachts and small commercial work boats. As a single unit installation, it is suitable for vessels with displacement between 50 – 130 tonnes. Due to its rugged construction and clever software, the VG120 is able to operate efficiently in small waves, but continue operating as wave environments grow to rough (when you need it most). Installation is simple, saving huge amounts of vessel integration cost. Multiple units can be installed for larger vessels.

<b>Rated Stabilizing Torque</b>	120 [kN.m]	<b>Mass</b>	2700kg
<b>Angular Momentum</b>	52 [kN.m.s]	<b>Power</b>	12kW
<b>Length</b>	1.63m (64")	<b>Rated RPM</b>	4800
<b>Width</b>	1.56m (61.4")	<b>Cooling Water</b>	35 [lpm]
<b>Height</b>	1.15m (45.3")	<b>Noise Running</b>	66 dBA



*[now upgraded]*  
**The VG145**

The VEEM Gyro 145 is the most advanced and powerful stabilizer available for smaller super yachts and small commercial work boats. As a single unit installation, it is suitable for vessels with displacement between 60 – 145 tonnes. Due to its rugged construction and clever software, the VG145 is able to operate efficiently in small waves, but continue operating as wave environments grow to rough (when you need it most). Installation is simple, saving huge amounts of vessel integration cost. Multiple units can be installed for larger vessels.

<b>Rated Stabilizing Torque</b>	145 [kN.m]	<b>Mass</b>	3000kg
<b>Angular Momentum</b>	70 [kN.m.s]	<b>Power</b>	15kW
<b>Length</b>	1.63m (64")	<b>Rated RPM</b>	4800
<b>Width</b>	1.56m (61.4")	<b>Cooling Water</b>	35 [lpm]
<b>Height</b>	1.15m (45.3")	<b>Noise Running</b>	67 dBA

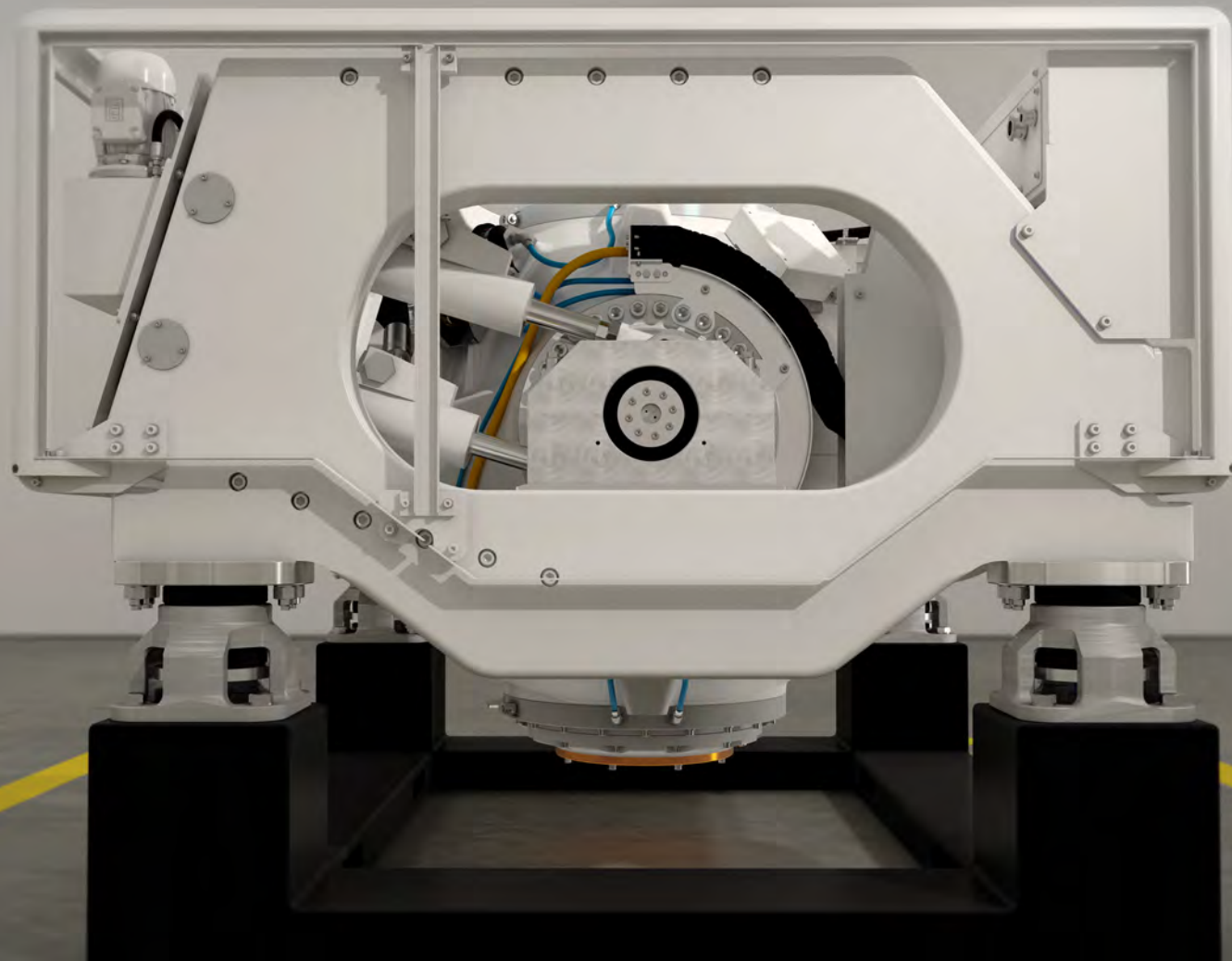




## The VG260

The VEEM Gyro 260 is the most advanced and powerful stabilizer available for medium super yachts and commercial work boats. As a single unit installation, it is suitable for vessels with displacement between 100 – 300 tonnes. Due to its rugged construction and clever software, the VG260 is able to operate efficiently in small waves, but continue operating as wave environments grow to rough (when you need it most). Installation is simple, saving huge amounts of vessel integration cost. Multiple units can be installed for larger vessels.

<b>Rated Stabilizing Torque</b>	260 [kN.m]	<b>Mass</b>	5650kg
<b>Angular Momentum</b>	100 [kN.m.s]	<b>Power</b>	32kW
<b>Length</b>	2.1m (6.9')	<b>Rated RPM</b>	3000
<b>Width</b>	2.07m (6.8')	<b>Cooling Water</b>	120 [lpm]
<b>Height</b>	1.47m (4.8')	<b>Noise Running</b>	71 dBA



## The VG1000

The VEEM Gyro1000 is the most advanced and powerful stabilizer available for large super yachts and commercial work boats. As a single unit installation, it is suitable for vessels with displacement between 300 – 900 tonnes. Due to its rugged construction and clever software, the VG1000 is able to operate efficiently in small waves, but continue operating as wave environments grow to rough (when you need it most). Installation is simple, saving huge amounts of vessel integration cost. Multiple units can be installed for larger vessels.

<b>Rated Stabilizing Torque</b>	1000 [kN.m]	<b>Mass</b>	19 tonnes
<b>Angular Momentum</b>	520 [kN.m.s]	<b>Power</b>	115kW
<b>Length</b>	3.35m (11')	<b>Rated RPM</b>	1940
<b>Width</b>	3.1m (10'2")	<b>Noise Running</b>	73 dBA
<b>Height</b>	2.4m (7'10")		





# About VEEM LTD

Founded in 1968, VEEM Ltd is a high technology manufacturer of marine propulsion and stabilization systems, operating from its dedicated head office and production facility in Western Australia.

VEEM revolutionized fixed pitch propeller technology for boats and yachts with their Interceptor™ propellers and continues to pave the way for new technologies in the marine sector with the VEEM Gyro.

The VEEM Gyro will change the way the super yacht industry thinks about roll stabilization.

## Want to learn more?

To find out if VEEM Gyro is suitable for your vessel and the options available to you, use the VEEM Gyro-size calculator on our website.

Talk to one of our authorized global sales agents:

#### AMERICAS

##### **Halo Iron Works**

Mark Tomlinson  
markhaloironworks@gmail.com  
+1 954 579 8884

#### ITALY AND SOUTHERN EUROPE

##### **VEEM Ltd**

Luca Signorini  
lucas@veem.com.au  
+39 329 5980595

#### ASIA AND OCEANIA

##### **VEEM Ltd**

Paul Steinmann  
pauls@veem.com.au  
+61 434 071 092

#### MIDDLE EAST

##### **Exalto Emirates**

Willem Misdorp  
willem@exalto-emirates.com  
+971 (0) 5430 30 456

#### ITALY AND SOUTHERN EUROPE

##### **SAIM**

Antonio Renzetti  
marine@saim-group.com  
+ 39 06 65029462

#### NETHERLANDS AND NORTHERN EUROPE

##### **Ship Motion Group**

Jan Bruggeman  
jan@shipmotiongroup.com  
+31 850 02 18 10

[www.VEEMGyro.com](http://www.VEEMGyro.com)

*VEEM Gyro is a VEEM Ltd product.  
22 Baile Rd, Canning Vale, Western Australia 6155  
Telephone: +61 8 9455 9355*