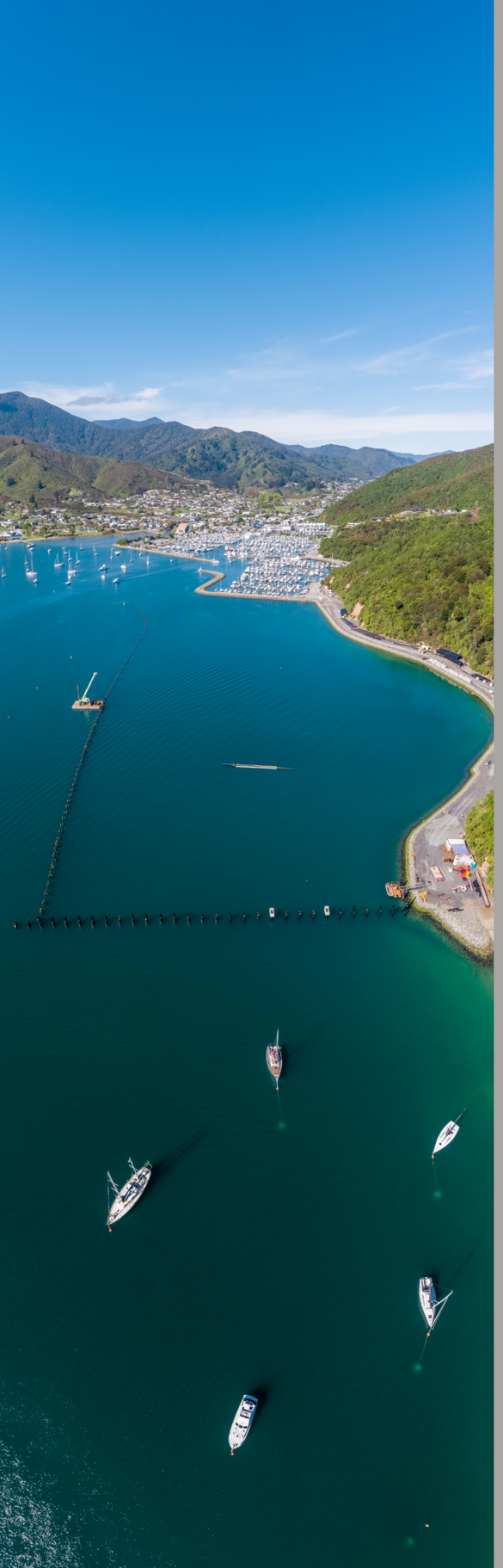
Single and Multi Anchor Leg Mooring System

Marine Services NZ Limited

Specialists in Screw Anchors, Moorings, Jetties & Construction Diving

DIVE INTO THE NEXT EVOLUTION IN MOORINGS



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ABOUT THE MOORING SYSTEM

HELPING TO PROTECT OUR PRISTINE WATERS

Non-disturbance means zero harm to our seabeds

Moorings and their potential to cause damage to the seafloor have long been a contentious issue. Particularly in the Marlborough Sounds, where multi-beam scans of the seafloor in Waikawa Bay have shown scouring they can cause.

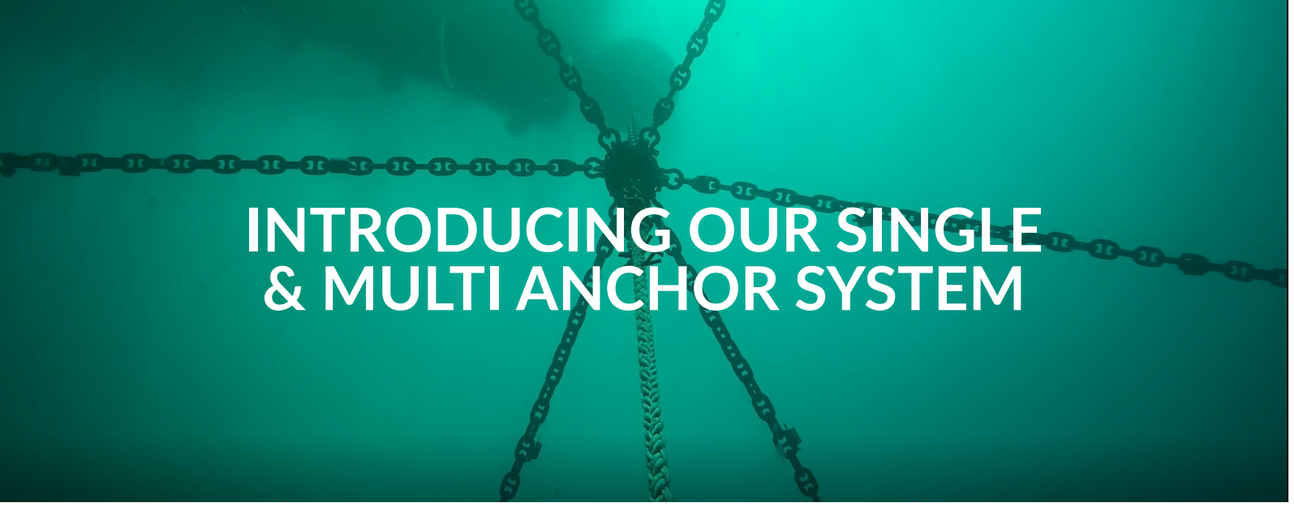
In traditional mooring systems, a large anchor chain lays on the seabed. These chain mooring systems require lengths of chain 4 to 5 times the depth of water they are situated in. As the vessel moves, the catenary action/dragging of the chain across the seabed destroys anything in its path, causing damage to the seabed and precious marine life.

Utilising screw anchor technology, MSNZ has developed an environmentally friendly mooring system where no chains or mooring tackle lay on the seabed. Instead, the anchor warps are held suspended. This means no disturbance or damage to the seafloor.

MSNZ's Single or Multi Anchor Leg Mooring System (SALM or MALM) is based on the SALM systems that have been used in the offshore industry for many years. It is a tried and tested design and an ideal solution for the future of mooring.

Currently, moorings for vessels up to 40m in length have been installed.

Removing damaging old anchor and chain moorings



INTRODUCING OUR SINGLE & MULTI ANCHOR SYSTEM

Top holding capacity with the tightest swing radius, ensuring no harm to seabeds

We are the supplier and installer of the Single Anchor Leg Mooring (SALM) and/or Multi-Point Anchor Leg Mooring (MALM) system in New Zealand.

Our SALM and MALM systems are engineer designed and certified to suit your vessel or requirements. To date, we have installed various SALM's for vessels 11m to 40m in length and our MALM systems for vessels 24m to 40m in length.

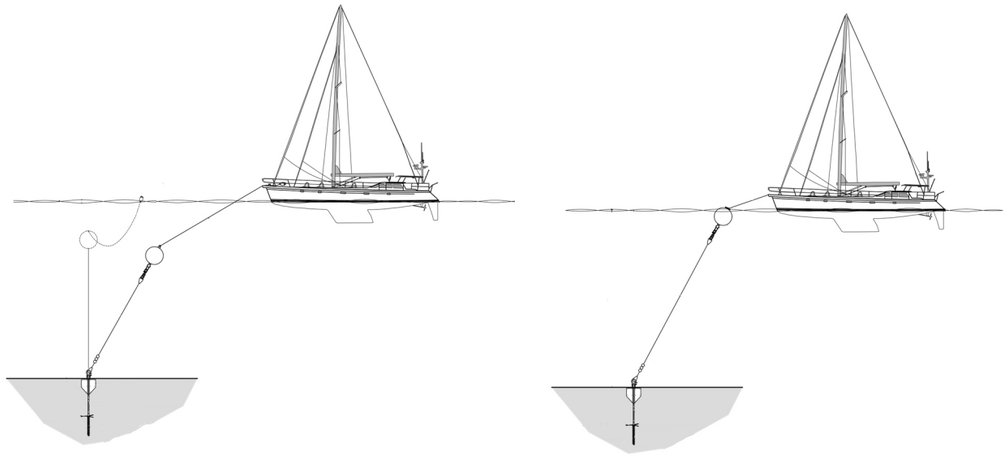
These are all in various water depths and regions of the South Island.

We offer end to end installation with a maintenance program that meets regulatory requirements.

What we do best:

- Assess your mooring needs with a solution that fits your vessel size and location
- The installation with our team of certified divers and experts
- Biennial servicing program

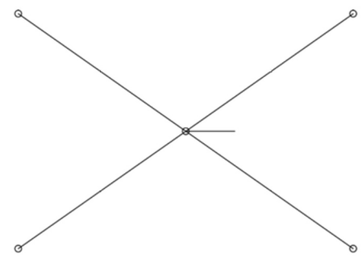
SINGLE ANCHOR MOORING CONFIGURATION

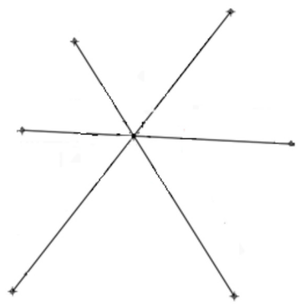


MULTI-ANCHOR MOORING CONFIGURATIONS

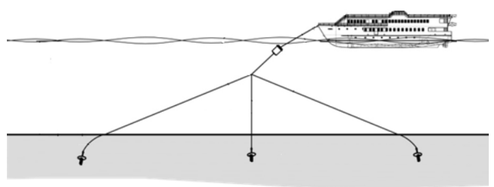
5 Anchor Point Configuration ***7 Anchor Point Configuration***

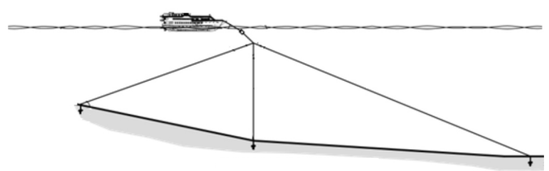
Landscape





Elevation





MOORING CASE STUDY & COMPARISON

BETTER MOORING FOR YOUR VESSEL AND THE ENVIRONMENT

MSNZ's Single and Multi Anchor Leg Moorings utilise screw anchor technology and high buoyancy floats to provide added security to the mooring system

The area of disturbance caused by a chain system will vary depending on both the size and water depth of the mooring.

In Fiordland, due to the extremely high wind speeds recorded, a certified mooring for a 40m vessel would require five times the water depth of 38mm chain. Normally this would only be four times the water depth.

In 25m water depth, 100m of chain is required. With one third suspended in the water, 66m would be on the seabed.

Continuous seabed disturbance = 13,687 m^2

In 65m water depth, 260m of chain is required. With one third suspended in the water, 173m would be on the seabed.

Continuous seabed disturbance = 93,977 m^2

In comparison, the SALM and MALM systems utilise screw anchor technology and only disturb 1.5$m^2$of seabed at installation per anchor regardless of the size or depth of the mooring with no ongoing disturbance of the seabed.

Top holding capacity with the tightest swing radius

With limited space available throughout all regions of New Zealand, the space saving element of this type of mooring cannot be overlooked. Previous mooring system for a 32m vessel in 62m water depth contained 2 anchors and 165 metres of 38mm chain, giving a swing radius of over 200 metres.

The new 5-point SALM system has a swing circle radius of roughly 65 metres. This is an extremely important consideration, due to spacial limitations, combined with the necessity of good holding capacity for large vessels.

Better for Vessel

There is no shock loading as the tension is all taken out by the movement of the float in the water – slowly going back under with the force of wind/tide until the buoyancy of the float counters the loading and the float moves back to the vertical.

Top service for regulatory compliance and safety

Our team of experienced marine professionals and administrative staff work with experts to provide advice and support to assist with meeting local regulatory requirements and to ensure the safety of the mooring system.

The DGPS on our purpose built mooring and anchoring vessels enables us to accurately position your mooring to ensure compliance with consent location.

INSTALLATION PROCESS

WE HANDLE INSTALLATION END TO END

1 The Initial Enquiry / Starting The Process

Inform us of your vessel length (not weight or size), location, water depth and type of seabed configuration

2 Design Process

Independent consultant OCEL is commissioned on your behalf to produce a design and build drawing for your anchor system.

3 Cost Estimation

MSNZ will then provide a proposal to supply and install the mooring to this design.

4 Mooring Installation

MSNZ installs the mooring and supplies OCEL with ROV footage and installation data. 'As built' drawings and a Producer's Statement are then supplied by OCEL.

5 Ongoing Support

To ensure the integrity of your mooring system and to comply with regulatory requirements, we offer a biennial servicing and maintenance program. Our team will make contact with you prior to the service being due to arrange the inspection.

CONTACT

We're the service oriented marine experts specialising in screw anchors, moorings, jetties & construction diving.

To find out more about the Single and Multi Anchor Mooring System direct all enquiries to:

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