



# DynaMoor

## TRELLEBORG DYNAMOOR

To safely and securely moor a vessel, balanced loads on a ship's mooring lines are required. With a conventional static line mooring system, the dynamic forces acting on a vessel from environmental factors, tidal or loading draft changes or from passing ships can result in unbalanced loads which can lead to parted lines and excessive vessel excursion whilst at berth. This reduces product transfer efficiency, may lead to facility downtime / asset damage or expose the jetty and ship's crew to danger.

DynaMoor combines the functionality of Trelleborg's class leading Quick Release Hook with constant tension capabilities to pay in and out mooring lines, absorbing energy and maintaining a constant tension.

DynaMoor can be used as a complete jetty solution integrated with Trelleborg's traditional QRHs, or deployed as a separate system working independently of a ship's mooring lines and winches.

Powered By  
**SmartPort**



SmartPort by Trelleborg is a technology platform that connects disparate, data-driven assets, giving stakeholders a holistic view of operations to power communication and decision making.

DAM-CTH-01 Ver 1.3



Trelleborg Marine Systems' commitment to continuous product improvement means that we reserve the right to upgrade and modify equipment and systems without notice as technological and operational parameters demand.

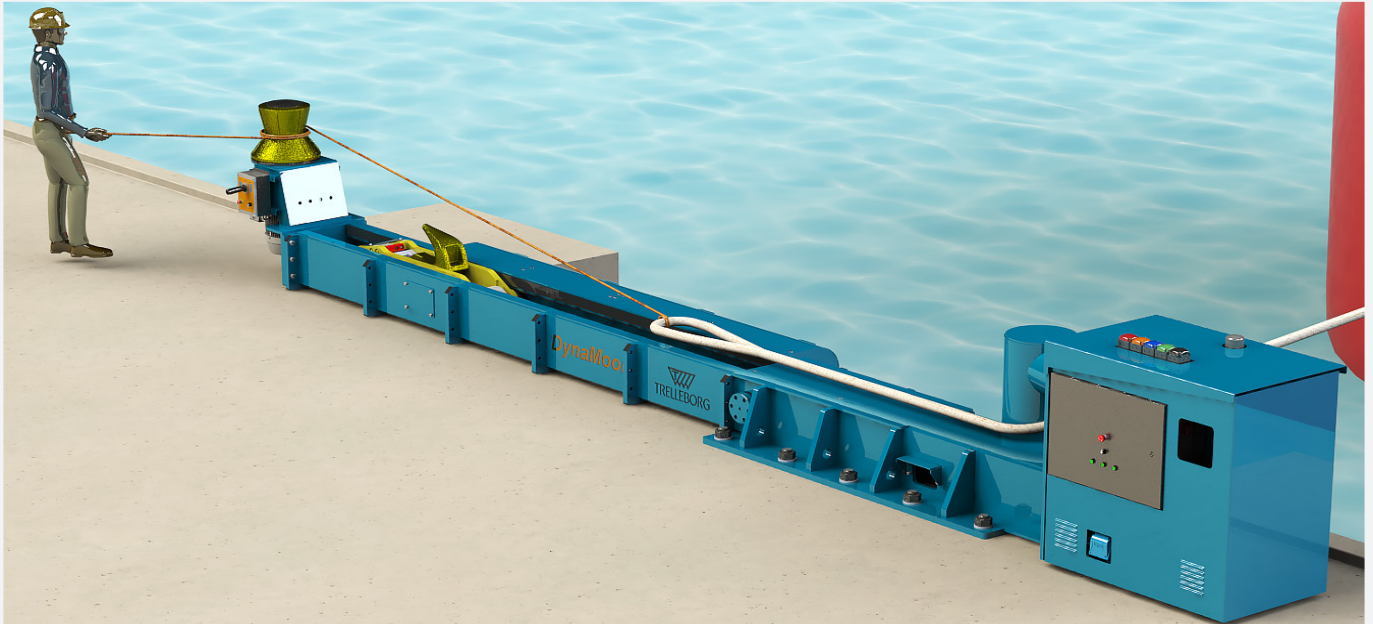
**Combining Trelleborg's class leading Quick Release Hook with an innovative dual mode mooring line tensioning system to bring forward the next generation of mooring solutions.**

### Benefits

- Dampens vessel motions to allow product transfer in a greater range of environmental conditions.
- Passive & constant tension damping modes of operation.
- Real-time load monitoring of mooring line tension.
- Quick release and remote release capabilities.
- Integrates with other Trelleborg docking and mooring products and environmental monitoring systems.
- Integrated with Trelleborg "SmartPort" data monitoring and reporting services.
- Does not require other mooring equipment such as bollards for mounting and set-up.
- Can use ship's mooring lines or shore-based dedicated lines to apply tension.
- Integrated fairlead to allow greater range of mooring line angles.
- Self-contained mooring units with all motors, features and functions within.
- Hazardous area operation capability.



**The integrated fairlead simplifies the mooring arrangement and eliminates reliance on bollards for connection to the jetty. There is also no need for complex pulley systems to route the mooring lines to the vessel. DynaMoor is designed to accommodate the full safe working load as an integrated mooring fixture and tensioning system.**



Model shown includes optional capstan

This improves safety through minimizing “snap back” zones on the wharf. The simplified mooring arrangement also greatly improves efficiency of mooring operations by reducing the time taken to secure the vessel at berth.

In addition to improving safety and efficiency of mooring operations DynaMoor dampens vessel motion, which increases the range of environmental conditions that product can be efficiently transferred increasing overall potential facility throughput.

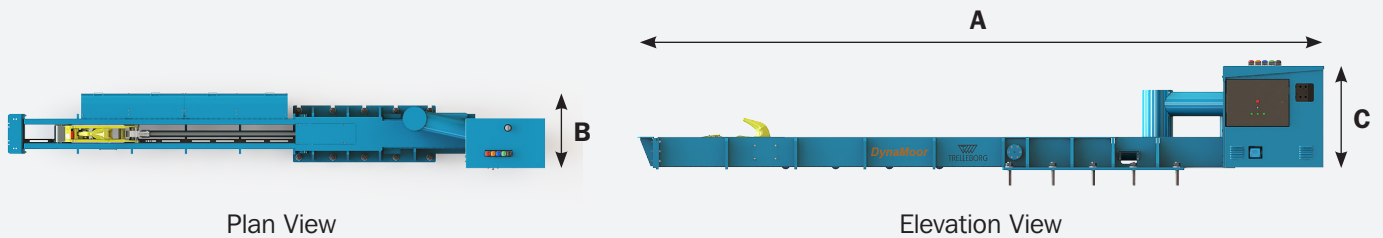
Local and optional Remote Release functionality permits release of mooring lines safely and remotely up to the full safe working load. The technology to achieve this is based on Trelleborg’s class-leading Quick Release Hook (QRH). Added safety interlocks prevent inadvertent release and ensure only authorized personnel can remotely operate the quick release functions.



Not only does this improve plant operational efficiency and minimize manual line handling, the facility can operate in confidence knowing that in the event of an emergency the mooring lines can be released without endangering personnel.

# DynaMoor - Details and Specifications

MODEL	A	B	C	ANCHOR BOLT SIZE (mm)	ANCHOR BOLT (QTY)	SHIPPING MASS (kg)
DM60	8736	1238	1425	M56 x 1000	10	6500

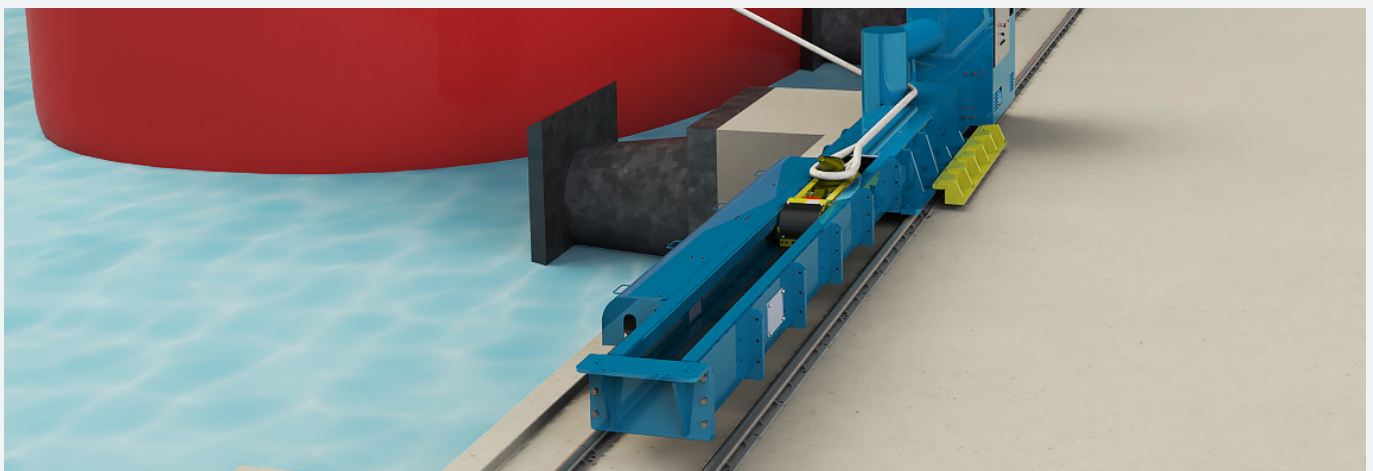


## 1 GENERAL SPECIFICATIONS

1.1	Line Pull	60T
1.2	Line Stroke	3m
1.3	Safe Working Load	150T
1.4	Key Standard Features	DynaMoor Control System
		Quick Release Hook (QRH)
		Constant Tension System
		Constant Tension Frame
1.5	Optional Features	Electric Capstan 1.5T - 3T line pull

## 2 DYNAMOOR CONTROLS

2.1	Operational Modes	Constant Tension Mode
		Passive Tension Mode
2.2	Control Stand	Selector Switch: Manual / OFF / Automatic
		Pushbuttons: Load Inc / Load Dec / Acknowledge
		Indicators: Running / Fault
		Emergency Stop: Push to set, twist to reset
2.3	Incoming Connections	Cable Entry – 25mm



<b>3 QRH GENERAL SPECIFICATIONS</b>		
3.1	Hook Construction	Frame (side plates): Carbon Steel ASTM A572 Grade 50 equivalent to AS 3678 Grade 350 Hook body, main pivot block, primary release block: cross shaft are high strength alloy steel to ASTM A148, equivalent to AS 2074.
3.2	Spark Prevention	The hook assembly is fitted with three elastomeric impact blocks for energy absorption. Material: polypropylene.
3.3	QRH Line Sizes (Ø mm)	Series 100/125/150R QRH Max Ø 110mm
<b>4 CONSTANT TENSION SYSTEM</b>		
4.1	HPU Enclosure	Non-Hazardous Areas – Stainless steel GR316, IP66 Hazardous Areas – Epoxy coated aluminium alloy, Zone 1 IIB, IP66
4.2	Electrical	Supply Voltage – 3 phase, 380 to 415 @ 50Hz, 440 to 480 60Hz Power – 3.0 kW
4.3	Incoming Connections	Power Entry – 32mm Control Stand – 25mm Communications Entry – 25mm
<b>5 CONSTANT TENSION FRAME</b>		
5.1	Fabricated frame and fairlead	Low Alloy Steel Grade Q345B to GB/T1591-2008 equivalent to ASTM A572 Grade 50.
5.2	Extended Temperature Range	For temperatures below -15°C and above +60°C, please consult our engineers.
<b>6 QUALITY &amp; TESTING</b>		
6.1	NDT	ASTM E1444-05
6.2	Welding	ASTM D1.1 or AS 1554
6.3	Testing	All hooks individually load tested using NATA (National Association of Testing Authorities [Australian]) calibrated testing equipment. Each QRH standard Proof Load = 125%. Each QRH is individually load tested to Proof Load and manually released at the rated Standard Working Load (SWL).
<b>7 SURFACE TREATMENT</b>		
7.1	Surface Treatment	Surface Preparation – Class 2.5 Blast* 1st Coat : 60-80 µm DFT epoxy zinc-rich primer 2nd Coat : 160-280 µm DFT two-part epoxy, containing MIO 3rd Coat : nominal 60-80 µm re-coatable two-part polyurethane. Colour : Sky Blue / Golden Yellow highlights. Other colours available on request.  * AS1627.4 , USA, National Association Corrosion Engineers, NACE or Society for Protective Coatings, SSPC-SP10 Sweden, Sa 2-1/2)