

Automated Vacuum Mooring System

CAPABILITY SHEET - SHORE-SIDE VACUUM MOORING FOR QUAYS, JETTIES AND PONTON BERTHS

THE SYSTEM

WHAT	Shore-side quayside units that hold a berthed vessel with vacuum pads on articulated arms, replacing conventional mooring lines.
OUR ROLE	Quay mounting and arms, pad and seal design, vacuum and reserve, force measurement and damping, control and fail-safe logic, corrosion, AMC.
STATUS	Quoted against a multi-berth automated vacuum mooring system requirement for a major port authority; no delivered system of the class is claimed.

THE GOVERNING IDEA

THE ROPE IS THE HAZARD	A mooring line stores enormous energy and whips back through a snap-back zone when it parts. Removing the rope removes the hazard outright.
A MOVING, IMPERFECT TARGET	The hull is wet, curved, coated, sometimes fouled and never twice in the same place - so vacuum is sized with reserve, not for clean plate.
LIMIT, DO NOT LOCK	Tide and cargo-work draft change must be allowed. Motion is held within an envelope, with surge and sway damped rather than blocked.

THE MACHINE

MOUNTING + REACH	Quay frame or traversing rails, with arm geometry sized for the whole vessel population across the full tide and draft range.
PAD + VACUUM	Moulded seal face on a gimbal so it conforms to a doubly curved hull, with a receiver reserve that tolerates an imperfect seal.
CONTROL + SAFETY	Force measured at the pads, compliant following, interlocks and monitoring - and a fail-safe hold demonstrated at acceptance.

DISTINCT & HONEST

SHIPBOARD VS SHORE-SIDE	Deck winches and capstans belong to the ship and its crew. This machine belongs to the berth - different owner, installation and duty.
IF THE POWER FAILS	Nothing happens: the machine holds. Release is a deliberate command, never something a fault can imitate.
ENGAGEMENT	Send the vessel population, tide and draft range, berth layout and holding criteria to sales@neometrixgroup.com for a compliance matrix.

DEFENCE PROGRAMMES DESK

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