

RAPTOR Load Test Frame & Control System



The Raptor Load Test Frame & Control System is another important part of the overall capability package, and really focuses on validation and proving performance.

Alongside the installation systems themselves, there's a requirement to properly verify anchor performance under real offshore loading conditions, particularly for floating wind, tidal, and other high-energy marine environments.

This load test frame and control system has been specifically developed to carry out full-scale anchor testing, including tensioning, maximum load, and fatigue testing, allowing us to simulate long-term offshore operational conditions.

What's important here is that it's not simply about installing anchors, it's about being able to validate performance, collect reliable engineering data, and provide confidence around long-term integrity and operational capability.

The system incorporates advanced monitoring, instrumentation, and control capability, enabling detailed real-time recording of load, displacement, and system behaviour throughout testing with.

- real-time monitoring,
- digital integration,
- performance verification,
- and data-led operational decision making.

It also supports a much faster development cycle because systems can be validated, refined, and demonstrated more efficiently before large-scale deployment.

Having access to real marine environments, operational infrastructure, and independent validation capability is hugely important in helping accelerate confidence, certification, and ultimately commercial adoption of these technologies.

So while this may appear to be a testing system, in reality it becomes a key enabling technology for scaling future offshore renewable infrastructure safely and efficiently.



Contents of Spread

Item	Specification
LOAD FRAME	150 te UPLIFT CAPACITY ULS
HPU	18.5 kW EHPU
SCADA SYSTEM	HIGH FREQUENCY LOGGING
SENSOR BEAMS	TWO NO. FRAMES
LOAD LINKS	TWO SETS
TRANSPORT	2 NO. 20 FT ISO CONTAINERS
LATERAL LINK	150t CAPACITY CYLINDER
DOCUMENTATION	FULL ENGINEERING PACK

Frame Load Details

Item	Specification
MATERIAL	STEEL
WEIGHT	5.20 te
SETUP FOR TESTING:	
LENGTH	5.88 m
WIDTH	5.15 m
HEIGHT	2.94 m
STOWED FOR TRANSPORT:	
LENGTH	4.03 m
WIDTH	2.01 m
HEIGHT	1.81 m

Testing Capability

Item	Specification
TEST TYPES	ULS & FLS
LOAD OUTPUTS	DUAL LOAD CYLINDERS
RATED PULL RAM PULL	150 te

Hydraulic Power Unit

Item	Specification
THREE PHASE INPUT	400 V @ 50 Hz
COOLING	AIR
HPU POWER	18.5 kW
HPU PRESSURE	320 bar
HPU FLOW	28 lpm
OIL TYPE	PANOLIN S4 HLP SYNTH 32

SCADA

Item	Specification
FRAME & HPU SENSORS	FULL SAFETY OPS SUITE
LOGGING INPUTS	UPTO 32 TOTAL
TYPE	CABINETS WITH AC
SAFETY	INTERLOCKS & SHUTDOWNS
E-STOPS	MULTIPLE ON SYSTEM

Testing Sensors

Item	Specification
DISPLACEMENT	6 NO.
INCLINATION	3 NO.
LOAD CELL	2 NO. 150TE PINS IN LINKS 1 NO. 100TE ANNULAR

TEST FRAME, 150 TE
 CYLINDER & LOAD CELL

150 TE CYLINDER AND
 LOAD CELL

INSTRUMENT FRAME
 • 3 X DISPLACEMENT

INSTRUMENT FRAME
 • 3 X DISPLACEMENT
 • 3 X INCLINATION

