



Limpet[®] - Multifunctional Height Safety Systems

Pioneering Total Height Safety



Next Generation Climb Assist



Improve worker health & safety and turbine availability

Taking Powered Climb Assist to New Heights

90% INTELLIGENT CLIMB ASSIST[®]

- Powered assistance of 90% of user weight up to 140kg; intelligent system automatically applies the appropriate level of assist for each user
- Zero button press to engage; use is safe, simple and intuitive
- Enhanced user comfort; soft-start and anti-shock features remove jerkiness from the system
- Silent running feature; very low levels of mechanical noise when in operation allows workers to communicate easily

RAPID RESCUE & EVACUATION

- Perform emergency rescue or evacuation by lowering or raising casualty to safety at up to 1 metre per second
- Remote rescue via the wireless or fixed control units. Rescuer does not need to be put in danger
- Two people can evacuate simultaneously on safety line, improving rescue time and safety margins
- Integrated rescue removes need for separate rescue kit

PROACTIVE FALL PREVENTION

- Advanced PPE certified system; measures line tension to prevent falls from developing (typically <20mm of vertical displacement and <2kN of force in event of a slip)
- Integrated fall prevention avoids problems of compatibility with existing Fall Arrest Systems
- Integrated Fall Prevention removes need for separate cable/rail fall arrest system in new turbines

PRECISE WORK POSITIONING

- The Limpet[®] L5 can be used as a personnel hoist for suspended access work. Workers can control their rate of descent, ascent and position through use of the wireless RF remote control



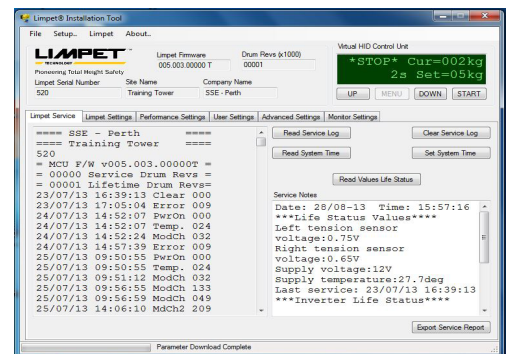
Smart on the inside...tough on the outside!

Black Box Data Recording in Real Time

ACTIVITY SOFTWARE

Limpet® Activity Software is integral to the system and allows each Limpet® unit to be optimally configured for its site, application and to self-diagnose as recommended in EN50308

Limpet® Activity Software is a “black box” data recorder for all activity on the Limpet® safety line. Site supervisors can monitor levels of turbine access by employees and contractors.



REMOTE MONITORING VIA SCADA

Further value can be added by connecting a Limpet® to the turbine SCADA system to enable information to be communicated in real time to supervisors at a remote location. This enables the owner/operator to:

- Lower costs through extended inspection intervals
- Monitor and enforce levels of on-site usage by employees and contractors
- Be immediately alerted if a “fall” occurs





Safety through Technology

Reliability & Performance - Year after Year

LIMPET® - SAFER BY DESIGN

Limpet® products have an operational life in excess of 25 years. All aspects of engineering design, component selection, assembly and testing have been developed in order to produce high quality systems that deliver outstanding performance and reliability year after year



QUALITY THAT LIVES CAN DEPEND ON

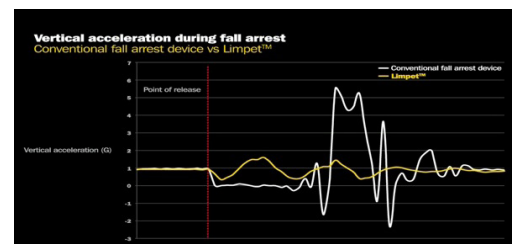
Limpet® product design is undertaken with a view to having very high reliability in the field and very high safety factors on load bearing parts (minimum 15X maximum user weight). As a result, low stress is placed on key components, which results in extended working life and a lower total cost of ownership for customers





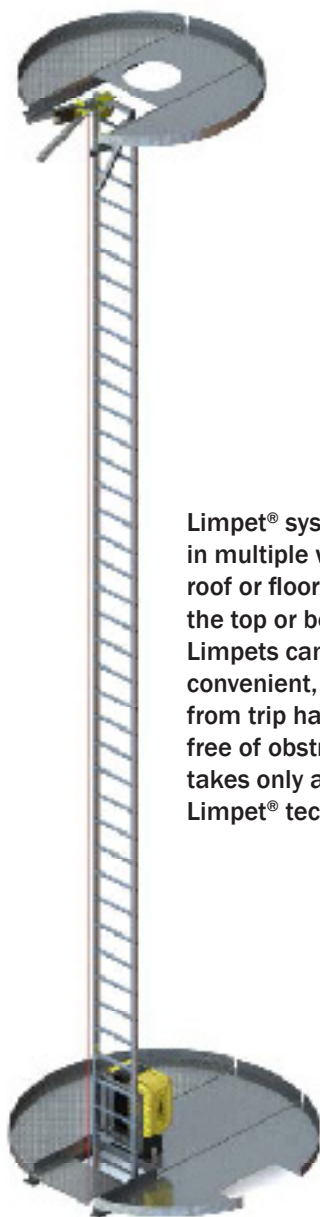
Why LIMPET[®]? - Key Benefits

- Climb assist at 90% of user weight totally removes exertion from climbing ladders
- Intelligent Climb Assist[®] automatically applies appropriate level of assist with zero button press to engage. Use is safe, simple and intuitive
- 90% assistance means technicians can climb and descend more turbines faster which increases productivity & turbine availability
- 90% assistance reduces physical effort and lowers occupational health risks of ladder climbing
- Intelligent assistance adapts to the climbing speed and style of the user meaning a more controlled and comfortable ride
- Fully integrated, PPE certified fall prevention system means zero compatibility problems between climb assist and fall arrest systems
- High performance fall prevention system (<2Kn fall forces) means no risk of injury in the event of a fall
- No obstructions on the ladder
- Integrated evacuation feature massively improves speed of rescue
- On-board activity recorder allows real-time data monitoring and diagnostics
- Simple and fast installation
- High quality engineering means 25+ year design life and low total cost of ownership

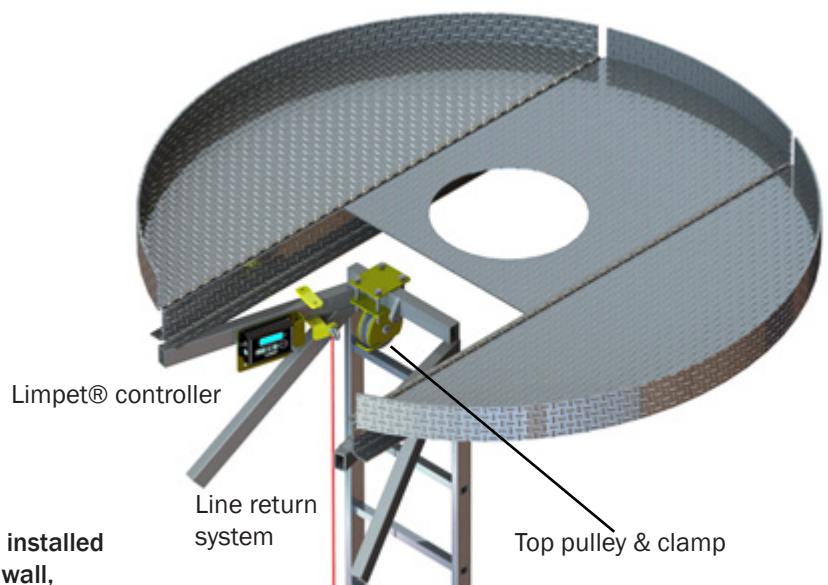


Quick to Install, Easy to Use, Simple to Maintain

Flexible & Configurable System





Limpet® systems can be installed in multiple ways; on the wall, roof or floor of the turbine or at the top or bottom of the ladder. Limpets can go wherever is most convenient, leaving platforms free from trip hazards and the ladder free of obstructions. Installation takes only a few hours by trained Limpet® technicians



Limpet® on standard ladder mounting frame



Technical Specifications

	LIMPET® L5	LIMPET® L2
Product Image		
Dimensions (LxWxH)	658 x 506 x 403mm	658 x 470 x 403mm
Weight of Unit	63kg in normal configuration	54kg in normal configuration
Safety Line Materials	Dyneema® core with option of para-aramid fibre (very good thermal resistance) or polyester (very good UV resistance) both with MBL 41.7kN	
Safety Line Capacity	130m	
Power Requirements	220 - 240V, AC, 16A, 50/60Hz, single phase	220 - 240V, AC, 13A, 50/60Hz, single phase
Operating Temp	-40 to +54 °C	
Control System	Cabled and wireless remote controls	Wireless remote control
User Weights (Min - Max)	40kg to 140kg	40kg to 140kg
Main Features	<ul style="list-style-type: none"> Intelligent Climb Assist® Proactive Fall Prevention Rapid Remote Rescue Clip and Go Evacuation Precise Work Positioning 	<ul style="list-style-type: none"> Intelligent Climb Assist® Proactive Fall Prevention
	<ul style="list-style-type: none"> Fails to Safe Black Box Data Recorder Buttonless Start Operation Silent Running 25+ Year Design Life 	<ul style="list-style-type: none"> Fails to Safe Black Box Data Recorder Buttonless Start Operation Silent Running 25+ Year Design Life
	Static load safety factor of x15 max user weight	
	0.3m/s (140kg) - 0.5m/s (90kg)	N/A
	0.5 - 0.9m/s	N/A
	Multiple mounting options	
	Multiple users when integrated with Limpet Line Return System	
	IP56	IP44, IP56 optional
	CE marked under the Machineries Directive 2008/42/EC CE marked under the PPE Directive 89/686/EEC EMC Directive 2004/108/EC Software IEC 61508-3 & ISO 13849-1	
	Limpet® Test Standard 001:2009, which includes requirements from standards Z359, CSA Z259.2.2, EN360, EN341, EN353-1, EN364, EN1496 and others	
PPE Test Highlights	Fully compliant with HSE '8 Type Test 10km continuous descent test with 140kg test weight 22kN Static Load Test Dynamic Ultimate Strength Test - 140kg test weight and 0.6m drop Arrest forces negligible in dynamic performance tests Deceleration negligible in dynamic performance tests Negligible vertical displacement in dynamic fall tests	
Service Interval	Annual maintenance service or every 60,000 drum revolutions, whichever is sooner	



Limpet Technology Limited

5/2 Mitchell House
Mitchell Street
Edinburgh
EH6 7BD

www.limpettechnology.com
info@limpettechnology.com

+44 (0) 131 551 2727