

WORLDWIDE LOADBANK SPECIALISTS SINCE 1983















Our Sector Expertise

We specialise in the marine, oil & gas, datacentre and power generation sectors. But we also offer load banks of all sizes, voltages or capacities for any application. Wherever the risk of power failure threatens productivity, efficiency or safety, our load banks are tried and trusted - whether it's testing the world's biggest cruise liners, commissioning gas turbines or testing offshore FPSO's.



Welcome to Crestchic

For more than 40 years, we've been designing, manufacturing and renting load banks that provide accurate, reliable electrical test loads for commissioning and maintaining power systems.

We provide market-leading products for sale and rental to some of the world's biggest companies, backed up by our consultative service. We work with you right from specification stage, offering unrivalled quality, choice and expertise to create the right solution for your needs.

We're a global operation, servicing all seven continents from local offices around the world. But, at heart, we're proud to be a British company, co-ordinating everything from our Burton-on-Trent headquarters and using British materials and suppliers. All in all, this makes us one of UK manufacturing's most enduring success stories.

Read on for a brief introduction to our standard load bank (AC, DC, capacitive), transformer and control system packages. For a more in-depth discussion, please get in touch.

Which load bank do you need?

Load bank rental from Crestchic provides customers with flexible and convenient soultions for load testing, with a very wide range of load bank specifications and delivery options.



- Size and purpose of load required (kW/kVA)?
- Test voltage?
- AC or DC test supply?
- If AC, is it single or three-phase, what frequency?
- Resistve (Unity Power Factor) or Resistive/Reactive (0.8 Power Factor typically)?
- Is remote control required?
 - Length of remote control cable?
- Load cable length?
- Load bank control type?
- Hire duration?
- Site location and type?
- Is a survey required?
- Weekday, evening or weekend time required on site?
- Installation by Crestchic?
- Do you need a Crestchic operator?

AC Resistive Load Banks



- Voltage from 380V to 690V
- 3 phase
- 50-60 HZ
- 30kW to 7000kW
- Multiple 1kW load steps
- IP55 control protection
- Low noise versions
- Stainless steel finned elements
- Ambient temperature operation to 50°C
- Stackable when not in operation
- ISO containers sized 10ft, 20ft, 30ft or 40ft
- Lloyd's Register-certified
- DNV containers available
- Four control variants available

Resistive/Reactive Load Banks



- Voltage from 380V to 690V
- Typical power factor 0.8
- 50-60 HZ
- 500kVA to 6250kVA
- Multiple 1kVA load steps
- IP55 control protection
- Low noise versions
- Stainless steel finned elements
- Stackable when not in operation
- Standard canopy sizes to 300kVA
- Container packages over 375kVA
- Lloyd's Register-certified
- DNV containers available
- Ambient temperature operation to 50°C
- Reactive-only (inductive) available
- ISO containers 10ft, 20ft, 30ft or 40ft

Medium Voltage Load Banks



- Voltages from 690V to 34kV
- 50-60 HZ
- Multiple 1kVA/1kW load steps
- IP55 control protection
- Stainless steel fans
- High ambient temperature operation to 50°C
- Stackable when not in operation
- ISO container enclosure, 10ft, 20ft, 30ft and 40ft
- Lloyd's Register-certified
- DNV containers available
- Both resistive only and resistive/reactive
- 500kVA 3500kVA
- 500kW 4000kW

Crestchic Rental

In addition to the manufacture of load banks, Crestchic provide a wide range of load bank rental equipment offering design, delivery and installation options, support services and accessories to complement any customer load test requirement.

As the largest specialist supplier of load banks in the world, Crestchic's rental operation supplies a range of power testing and commissioning equipment.

This can be in the form of either straight rental for customer use, right through to packaged rental where Crestchic carry out design, delivery, installation, commissioning, operation, decommissioning and removal in partnership with the client, providing a flexible, client driven service.

Using knowledge, skills and flexibility that you would expect from the world's leading load bank manufacturer and rental company, we can work with our clients to tailor a rental package to suit your individual test parameters.

Worldwide Applications

- Standard generator heat run
- Application and rejection of generator load
- Simulate motor starting
- Base load
- Battery discharge
- UPS systems
- Heaters (space and heat load for air conditioning tests)
- Distribution boards
- Transformers (heat rise tests)
- DC generator testing
- Frequency converters



Capacitive Load Banks



- Leading power factor
- Simulates non-linear loads typical of telecoms, computer or UPS industries.
- Voltage 400/415V 50Hz 3-Phase
- 150kVArC and 1500kVArC
- 2.5kVArC resolution
- IP55 control protection
- Low Noise
- Power Meter

DC Load Banks



- Voltages from: 28VDC to 700VDC
- 200A to 3165A
- 1Amp or 1kW load steps
- Push button controller
- Constant current available on some models
- Dual and multi voltage units available (Series/Parallel)
- Transportable Castor Mounted

Transformers



- MV & LV switchgear installed
- Cast resin or oil filled transformer options
- Fitted complete with over current and short protection on the MV breaker
- ISO fully bunded containers with save-all base
- ONAN or ONAF variants available
- High ambient temperature operation to 50°C
- Stackable
- 4 pole isolators for flexible generator connections

Product Data - AC Load Banks

To ensure total protection, ease of movement and a long service life, all our load banks are packaged in high quality steel ISO containers. Designed around each individual load bank type for optimum cooling and access – only the highest quality containers are used.

Below, you'll find a comprehensive listing of our standard AC load bank sizes. For prices, enquiries or bespoke options, call our rental team on +44 (0)1283 531 645 or email hires.uk@crestchic.com.

AC Load Banks

Range: 20kW - 7000kW Frequency: 50 - 60HZ



CP - 'Crash Pack' option available C - Containerised R/R - Resistive/Reactive MCS - Micro-Control System

Auxiliary Power (Control)

Loadbank control can be supplied by either the power source being tested (internal) or from a separate auxiliary supply (external).

Cooling Fan Supply

The cooling fan can operate from the internal 'test' supply or from an external power supply.

Cable Connections

The cable termination chamber within the enclosure is fitted with bus-bars and stainless steel nuts and bolts for connection of MV cables.

Description	Rating	Dimensions L x W x H (mm) / Wt (kg)
20kW Resistive	415V 50Hz 3ph (4x5kW Steps)	550 x 475 x 415 / 40
30kW Resistive	400, 415V Versions 50Hz 3ph	800 x 500 x 500 / 60
100kW Resistive	400, 415V Versions 50Hz 3ph	750 x 875 x 730 / 130
110kW Resistive (CP)	415V 50Hz 3ph	795 x 920 x 820 / 180
200kW Resistive	415V 50Hz 3ph	820 x 875 x 1350 / 220
300kW Resistive	400, 415V Versions 50Hz 3ph	895 x 875 x 1325 / 250
300kW Resistive (CP)	400, 415V Versions 50Hz 3ph	940 x 920 x 1420 / 340
600kW Resistive	400, 415, 440V Versions 50Hz 3ph	1550 x 100 x 1525 / 620
650kW Resistive (CP)	415V 50Hz 3ph	1580 x 1050 x 1620 / 660
700kW Resistive (CP)	440V 50Hz 3ph (MCS)	1580 x 1050 x 1620 / 730
2700kW Resistive 'C'	415V 50Hz 3ph (MCS)	2991 x 2438 x 2591 / 4300
3000kW Resistive 'C'	415V 50Hz 3ph (MCS)	2991 x 2438 x 2591 / 4300
6000kW Resistive 'C'	450V 50Hz 3ph (MCS)	6058 x 2438 x 2591 / 8400
400kVA R/R 'C'	400V 50Hz 3ph (MCS)	1200 x 1534 x 2100 / 2500
500kVA R/R 'C'	415V 50Hz 3ph (MCS)	1200 x 1534 x 2300 / 2600
875kVA R/R 'C'	480V 60Hz 3ph (MCS)	1200 x 2438 x 2200 / 3300
1.0MVA R/R 'C'	480V 60Hz 3ph (MCS)	1200 x 2438 x 2400 / 3600
1.5MVA R/R 'C'	400V 50Hz 3ph (MCS)	1900 x 2438 x 2591 / 5500
1.65MVA R/R 'C'	480V 60Hz 3ph (MCS)	1900 x 2438 x 2591 / 5600
1.7MVA R/R 'C'	415V 50Hz 3ph (MCS)	1900 x 2438 x 2591 / 6000
1.875MVA R/R 'C'	480V 60Hz 3ph (MCS)	1900 x 2438 x 2591 / 5800
2.5MVA R/R 'C'	11kV 50Hz 3ph (MCS)	6058 x 2438 x 2591 / 15100
3.25MVA R/R 'C'	415V 50Hz 3ph (MCS)	2991 x 2438 x 2591 / 8900
3.3MVA R/R 'C'	480V 60Hz 3ph (MCS)	2991 x 2438 x 2591 / 10500
3.3MVA R/R 'C'	690V 50Hz 3ph (MCS)	2991 x 2438 x 2591 / 9500
3.4MVA R/R 'C'	415V 50Hz 3ph (MCS)	2991 x 2438 x 2591 / 9100
4.3MVA R/R 'C'	480V 60Hz 3ph (MCS)	6058 x 2438 x 2591 / 14100
6.0MVA R/R 'C'	480V 60Hz 3ph (MCS)	6058 x 2438 x 2591 / 16500
6.0MVA R/R 'C'	690V 50, 60Hz Versions 3ph (MCS)	6058 x 2438 x 2591 / 16400
6.25MVA R/R 'C'	480V 60Hz 3ph (MCS)	6058 x 2438 x 2591 / 17500
160kVAr Reactive	415V 50Hz 3ph	1350 x 980 x 910 / 1000
125kVA R/R	208V 400Hz 3ph	1390 x 1000 x 1570 / 880

DC Load Banks

Voltage: 24V/100A - 700V/450A Dual & multi-voltage units available



Description	Rating	Dimensions L x W x H (mm) / Wt (kg)
70kW / 2500A	2500A @ 28V	1125 x 650 x 1125 / 300
200kW	833A @ 240V / 417A @ 480V	895 x 875 x 1400 / 300
36kW	600A @ 60V / 300A @120V	1050 x 650 x 950 / 170
664kW	1897A @ 350V / 948A @ 700V	1750 x 1025 x 1520 / 650
664kW (CP)	1897A @ 350V / 948A @ 700V (MCS)	1850 x 1050 x 1620 / 800
42kW	1500A @ 28V	1025 x 600 x 800 / 172
633kW	3165A @ 200V	1550 x 1000 x 1525 / 650
8.4kW	300A @ 28V	725 x 625 x 600 / 30

CP - 'Crash Pack' option available

Transformers

Range: 2,000 - 8,000kVA Voltage: 600V - 34.6kV



Description	Rating	Dimensions L x W x H (mm) / Wt (kg)
2.5MVA Multi-Voltage	2.54kV - 14.25kV / 433/520V 50/60Hz	2991 x 2438 x 2591 / 9500
5.0MVA Fixed	11kV / 433V 50Hz	6058 x 2438 x 2591 / 17500
5.0MVA Multi-Voltage	2.54kV - 14.25kV / 433/520V 50/60Hz	6058 x 2438 x 2591 / 18500
7/8.0MVA Multi- Voltage (Step Up)	2.88kV - 14.4kV / 400 50Hz / 480V 60Hz	6058 x 2438 x 2591 / 22000
7/8.0MVA Multi- Voltage (Step Up)	8.66kV - 34.64kV / 400 50Hz / 480V 60Hz	6058 x 2438 x 2591 / 25400

Available in step-up or step-down, our transformer range from 2000kVA to 8000 kVA, with voltages from 400V to 34.6kV. All are fitted into custom designed, purpose built containers that enhance their performance and offer unrivalled protection.

Capacitive **Load Banks**

Voltage: 400 - 415V Frequency: 50 - 60HZ



Description	Rating	Dimensions L x W x H (mm) / Wt (kg)
150kVArC	415V 50Hz 3ph	1340 x 925 x 935 / 280
1500kVArC	415V 50Hz 3ph	2635 x 1040 x 1800 / 1380

Capacitive load banks provide a means to simulate electronic or non-linear loads typical of telecommunications, computer or UPS industries, by creating a leading power factor. Since its introduction, Crestchic has supplied its latest testing equipment - specifically to data centres, in locations around Europe and Internationally. This significant move in the rental business to provide testing at leading power factors keeps Crestchic at the very forefront of the market.

Control Systems

The best load banks in the world are nothing without precise, intuitive controls for both application and operator. Thankfully, Crestchic can deliver the best system for your exact needs.

These are one of Crestchic's key strengths: intelligent systems giving you perfectcontrol over your load bank. And we can work with you to find your ideal system – whether it's our latest software, such as Eclipse or Corona, which include a host of control and reporting tools for advanced use, or one of our pre-set panels or handheld terminals.

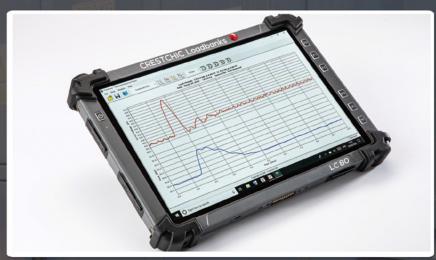
Our multilingual control systems cover basic manual controls, microprocessor controls and DC controls, offering a range of handheld controllers, software and units. Explore our systems shown here, or to discuss your best options, call us on +44 (0) 1283 531 645 or email hires.uk@crestchic.com

LC80 Controller

The LC80 controller is an IP65 lightweight handheld field controller suitable for both AC resistive and resistive/reactive load banks, which operates our dedicated load bank control software, Orion.

It works in-conjunction with bespoke industrial high-performance electronic control modules specifically designed for load bank operation. These modules are housed within the load bank enclosure which provides supervisory operation & monitoring of the load bank. Communications between each Orion load bank and their controller employs network technology to provide fast, high bandwidth data transfer capabilities.

The LC80 benefits from connection to the load bank/s by means of super-fast fibre optic cable. With long distances of up to 500m possible with the need for signal boosting, and the total immunity to electrical noise interference, Crestchic's fibre control is a natural choice for demanding industrial power testing environments.







The Orion control software can alternatively be operated on a standard Windows PC, running Windows 7, 8 and 10.

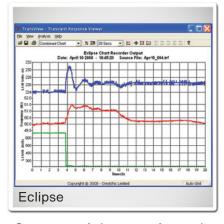
Nova controlled load banks have the following functions:

- AC load bank control system for resistive/reactive or resistiveonly operation
- Individual or multiple load bank operation from a single controller
- System extendible to control up to 15 load banks with proportional load-sharing
- Typical load resolution of 1kW/1kVAr across the load bank range
- Load-step synchronisation mechanism produces clean load switching, both within a single load bank and across multiple units
- Load entry in kVA, kW or Amps at power factors from zero to unity
- True r.m.s. 3-phase instrumentation with high speed data sampling to an accuracy of better than 1%
- Display of Ph-Ph or Ph-N voltages with kVA, KW and currents, both per phase and totalled
- Twenty user-definable preset loads stored in non-volatile memory
- Motor-Test facility for marine usage
- Automatic sequencing by the load bank of load profiles prepared from the preset loads by the user
- Transient response data for voltage and frequency recorded at each load-change. This is output to the PC/LC80 for graphical display and storage
- Test results report stored to PC hard disk
 - Uploading of previously saved load profiles from the PC/LC80 hard disk

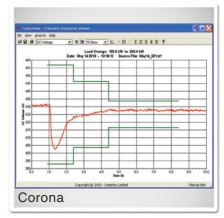




A simple, efficient PCB multistep system, with handheld or panel mounted options, allowing 1kW load steps.



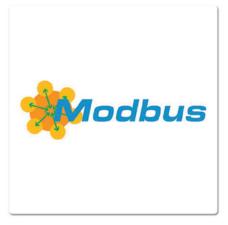
Our state-of-the-art software is ideal for more complex testing scenarios where accurate, real-time data capture and ultra-precise control of one or more load banks in a familiar windows environment is preferred.



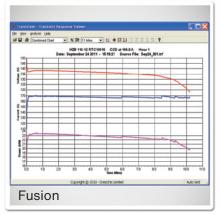
Our cutting-edge software for DC load banks works with a high performance microprocessor for accurate control, monitoring, and data sampling over multiple DC loadbanks via PC or HHT100.



The HHT100 hand held field controller is suitable for all micro-processor controlled load banks, providing portable, robust control up to100m, with basic instrumentation, pre-set load programmes and M-start facility.



Modbus communication protocol is available as a cost option on all AC microprocessor controlled load banks.



Equips DC load banks for performing constant-current or constant-power discharge tests, coupled with monitoring, data capture and reporting. Again, control is available for multiple load banks via PC/HHT100.

Service and Support

With over 40 years of load bank manufacturing, Crestchic support their load banks of varying sizes and age across the world.

Our service contracts help keep your Crestchic load bank in peak condition with regular maintenance and software upgrade visits scheduled at your convenience. Our data module calibration service ensures that the applied electrical load is accurate over a 12-month period, with traceability to UKAS laboratory standards.

- Preventative scheduled maintenance
- Priority call outs for contract customers
- Telephone support
- Parts support
- Software support and upgrades
- Data module calibration



Accessories

- Load cables: typically 35, 70, 95 and 150mm². Cables are installed in accordance with current legislation: for large and long-duration load bank installations, cables are installed on cable tray, trefoil and tied.
- Loadbank control extension reels.
- Cable junction boxes.
- Eclipse laptop alternative load bank control, for additional load features and data capture.
- Auxiliary generators for load bank fans and control systems.
- Medium and low voltage qualified load bank operators.

Delivery and Installation options

Crestchic's standard installation service includes: delivery, installation, de-installation ad collection of load bank packages. As an alternative, Crestchic supply 'delivery only', where the equipment is delivered and collected with customers doing their own installations and operation.

Crestchic can supply load bank operators if required.

Support Services

- Crane lorry delivery
- Site surveys
- Layout drawings
- Risk assessments
- Method statements
- Full project management
- Logistics assistance: vehicle permits, road closures and environmental issues
- 24-hour service support
- Fully owned Crestchic vehicle fleet and driver for installations readily available



Applications

Load banks are utillised across a multitude of locations and environments around the globe. The details below outline some of our more common applications.

Health

Hospitals require a constant uninterrupted power supply, but a UPS system or building generator that is untested could have more than just financial ramifications should it fail.

Loadbanks from Crestchic can test the power for continuity and reliability.



Marine

Crestchic's highly specialised load banks are widely used for the testing of Gensets - Gas Turbines - UPS & DC systems, making them a popular choice for the shipbuilding sector.

With rugged ISO containers, Crestchic's load banks are built for the marine environment.



Oil & Gas

Crestchic has been testing diesel and gas turbines for over 30 years' in the oil and gas sector.

Our load bank and transformer packages are used to commission main power packages found on new build platforms and FPSOs.



Facilities Management

Power failures due to poor maintenance and testing leads to loss of valuable data, decreases productivity and increases production time.

A full test using a Crestchic load bank is essential for business continuity planning and should be completed before any assumption of risk.



DataCentres

Using a Crestchic load bank to simulate power failure under full demand to ensure that the controls and switch panels work as expected in real conditions, and that the automatic transfer switch that regulates the main loads continues to operate in sequence is a crucial element in the smooth operation of a data centre.



Crestchic Rental Case Studies

25 Cabot Square

Duration: 1 Week

Low and MV Cabling

5.6MVA, 11kV, 3ph 50Hz

0.8pf Load Test



Crestchic Provision:

Load Banks:

1x 6.0MVA (20ft) 1x 3.3MVA (10ft)

Achieved Resistive and Resistive/Reactive at 0.8pf.



Transformers:

1x 2.9MVA 1x 5.8MVA

Operating a 6.6kV, 60Hz, 3-phase system.



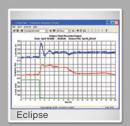
Testing result:

Full test and commissioning of the system to prove reliability of the UPS.

Testing requirement:

To test synchronisation of backup generators and test individually on full load for Morgan Stanley. Work undertaken out of hours at the weekend

Additional resources:



Eclipse software operated via laptop control to enable high speed data capture, transient recording and pre-programmable load bank tests.

Major DataCentre

Duration: 20 Weeks

Low Voltage Cabling

4.8MVA, 400V, 3ph 50Hz

Load Test



Crestchic Provision:

Load Banks:

67x 72kW

Achieved Resistive and Resistive/Reactive at 0.8pf.



Load banks were specially modified to operate in banks of 4 and 5 units to evenly distribute load and heat.

Additional resources:



KCS Control System. Load steps in 1kW / 1KVA for accurate application and rejection of load.

10m of low voltage cabling.

Testing result:

Full test and commissioning of the system at a new multi-million Euro datacentre in Ireland.

Testing requirement:

Testing UPS, backup system, air conditioning/ environmental systems by providing a heat and load test using low voltage cabling.

Malta Dry Docks

Duration: 8 Weeks

Low and MV Cabling

8.6MVA, 6.6kV, 3ph 60Hz

0.8pf Load Test



Crestchic Provision:

Load Banks:

2x 6.0MVA (20ft)

Achieved Resistive and Resistive/Reactive at 0.8pf.



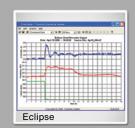
Transformers:

3x 5.8MVA (20ft)

Operating a 6.6kV, 60Hz, 3-phase system.



Additional resources:



Eclipse software operated via laptop control to enable high speed data capture, transient recording and pre-programmable load bank tests.

Testing result:

Full test and commissioning of the system onboard the newly refurbished Fairmont Fjord semisubmersible heavy transport vessel.

Testing requirement:

Testing of 3 Wartsila type 32 (3,690kW) generators using low and mv cabling. A Crestchic Engineer also oversaw the installation and testing process.

BP (PDQ)

Duration: 10 Weeks

Low and MV Cabling

12.5MVA, 6.6kV 3ph 60Hz

0.8pf Load Test



Crestchic Provision:

Load Banks:

3x 6.0MVA (20ft)

Achieved Resistive and Resistive/Reactive at 0.8pf.



Transformers:

3x 5.8MVA

Operating a 6.6kV, 60Hz, 3-phase system.





Additional resources:

Eclipse software operated via laptop control to enable high speed data capture, transient recording and pre-programmable load bank tests.

Testing result:

Full test and commissioning of the system onboard the BP Production, Drilling and Quarters (PDQ) platform in East Azeri.

Testing requirement:

Testing one generator set of Rolls Royce RB211 turbines using low and mv cabling. A 200KVA aux. supply generator and Crestchic Engineer were supplied.

Contact and Locations

With sales and rentals offices in the UK, North America, Singapore, Germany, Belgium, France, China and UAE, Crestchic are the largest load bank specialists in the world.

Design and service that's second to none - Crestchic has the expertise and capability to develop tailormade testing solutions that meet all your requirements, wherever you are. From standard size resistive and reactive load banks or custom-designed and built load banks of any size at any voltage and frequency.

Delivering load banks to all seven continents - No other company specialises in worldwide load bank supply like Crestchic. In fact, Crestchic load banks have been operationally successful in all seven continents and are reliably testing power supplies every day in locations and climates all round the world, from temperate to jungle, desert to snow, off-shore to high altitude.



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