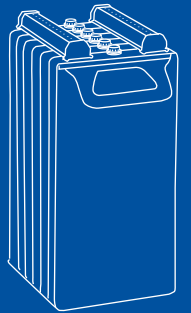


# Vantex Range

Maintenance-free  
Ni-Cd **batteries**



Reliability inside

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# ALCAD

# Your choice for peace of mind



## Alcad – providing you with reliable batteries

Since 100 years we've been working alongside our clients – companies at the forefront of their industries - to provide well - established Ni-Cd battery solutions.

Our world-class batteries offer optimum security and availability for stationary applications including power backup, engine starting and bulk energy storage.

The Alcad ethos is to strive to be the best at what we do. Our R&D teams respond pro-actively to evolving technologies and streamline our manufacturing processes, assuring customers benefit from the highest quality products.

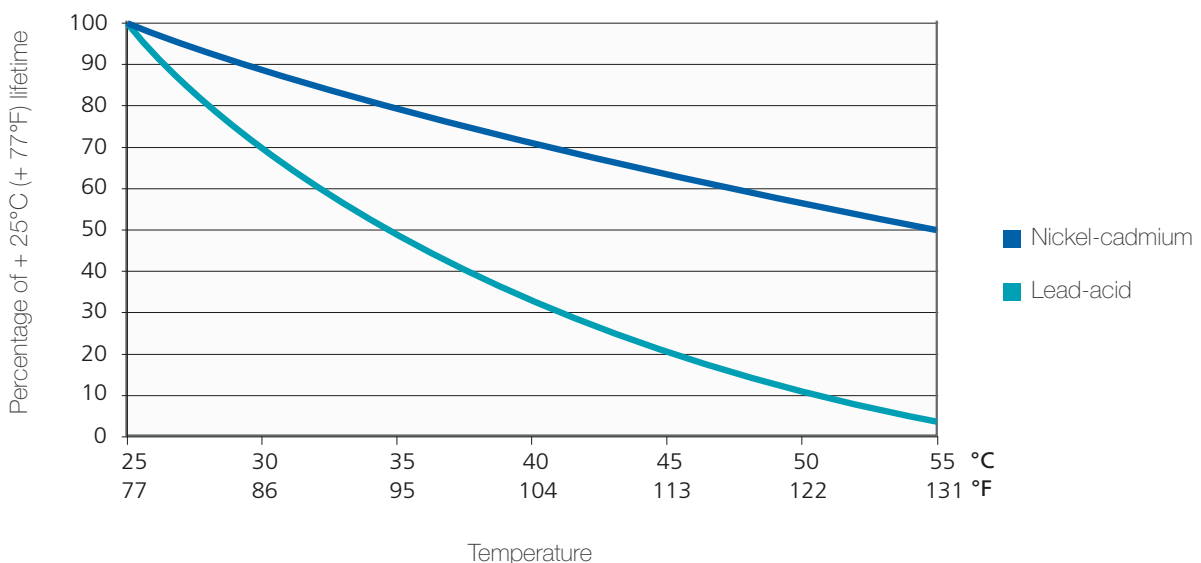
Alcad's fully integrated, worldwide service gives professional support and guidance right from your project's inception, through to supply of the batteries, installation, professional training and end of life recycling.

## Vantex gives you complete peace of mind and long life – including operation at high temperatures

Alcad's proven Ni-Cd technology has set the standard in industry for battery performance in challenging environments. Our batteries are renowned for their high performance and reliability, with clients assured of long battery life with no risk of sudden death failure.

Vantex improves on this impressive track-record by providing a service life of over 20 years at + 25°C [+ 77°F]. Even at temperatures up to + 35°C [+ 95°F], battery life drops by only 20%, as opposed to a 50% fall for a lead-acid battery.

**Effect of temperature on lifetime**



**Vantex**

## The 1st Ni-Cd battery operating in narrow DC voltage windows

### The maintenance-free solution for stationary applications

Alcad's most recent innovations have brought improved dependability to the world of industrial batteries. The latest Ni-Cd pocket plate technology offers maintenance-free(\*) operation, making Vantex the ideal backup power supply.

Important features include its low pressure flame-arresting vent, high electrical performance and chargeability. Vantex batteries deliver exceptional performance for optimal TCO (Total Cost of Ownership).

### The perfect fit to replace lead-acid batteries

The last Vantex generation is the perfect fit to replace lead-acid batteries thanks to its 1.39 V/cell single level charge. Its fast recharge enables 95% SOC in 8h at 1.45 V/cell for minimal downtime and optimal availability after a power failure.

Without the need for boost charge, Vantex Ni-Cd batteries can be fitted in all commonly used DC-systems. Dropping diodes or DC/DC converters are less required. Thus, the cost for the DC-system can be reduced as less components are needed.



(\*) The term maintenance-free means that no addition of water is necessary during the lifetime of the product, when following Alcad's recommended operating conditions.



# Providing optimum, maintenance-free performance

## Maintenance-free design keeps running costs down

Vantex's state-of-the-art design concept gives our customers maintenance-free batteries.

- No need to add water throughout the service life of the battery (following Alcad's recommended operating conditions – from - 20°C (- 4°F) to + 40°C (+ 104°F), at 1.39 V/cell).
- Minimal servicing is required with only preventive maintenance needed.
- Water use and gas emissions are reduced due to the high level of gas recombination of more than 95% – far beyond the requirements of IEC 62259.
- Vantex is supplied with a low pressure flame-arresting vent – one that works as a valve regulated vent.

## Fast battery charging reduces downtime

- Single or two-level charging regimes are available:
  - Single level charge**
    - $1.39 \pm 0.01$  V/cell
  - Two level charge**
    - Float level:  $1.39 \pm 0.01$  V/cell
    - High level:  $1.45 \pm 0.01$  V/cell
- The fast recharge enables 95% SOC in 8h at 1.45 V/cell for maximum availability after a power failure, at + 20°C (+ 68°F).

## High efficiency optimizes battery life cost

Vantex battery solutions offer high efficiency. Installers can now select a specific battery that fits individual operational requirements, reducing primary purchase costs.

- Vantex design has high battery electrical performance whatever discharge time is needed. This is enabling to use a small battery capacity for an optimized TCO (Total Cost of Ownership).
- Bringing batteries into service is a straightforward procedure. Even after six months of storage, the battery commissioning is easy and simple. It can be performed with any commercial charger.



## Designed for critical applications

### Essential support for vital systems

When you need a power backup system you can trust, you need Vantex.

Our batteries are the essential component in power backup systems across the following industries:

- Oil and gas exploration
- Utilities
- Manufacturing and production

Losing mains power is not a problem for systems with Vantex backup. Our batteries provide a crucial power supply to deliver continuity of mission-critical loads, expedite safe shutdown processes, bridge to standby power and safeguard computer data.

Our batteries are frequently used as backup for:

- UPS
- Substation switchgear
- Process control systems
- Emergency lighting
- Fire alarms
- Security systems

### A battery you can trust in the most challenging operating conditions

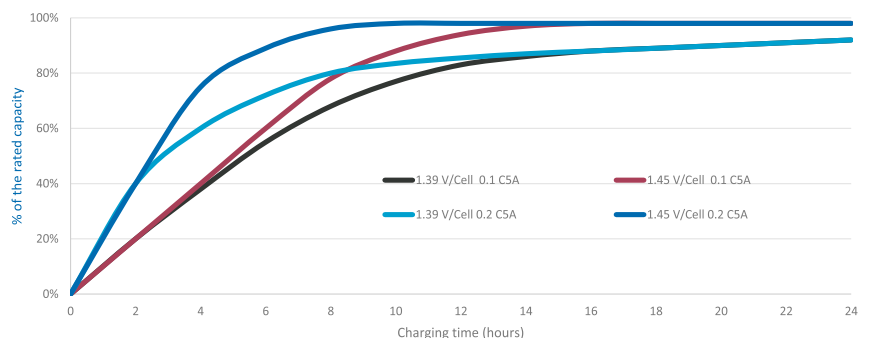
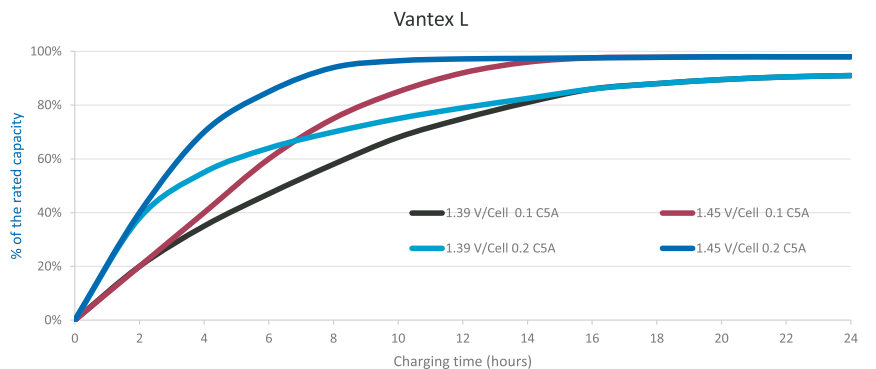
When safety is of paramount importance, Vantex batteries offer complete reliability, any time, anywhere.

- Our unique Ni-Cd electrochemistry works in conjunction with the tried and tested Alcad pocket plate design to give you absolute peace of mind.
- Vantex batteries are an enduring option with a lifetime service of over 20 years at + 25°C (+ 77°F).
- Strong build quality cuts out the risk of sudden death failure.
- Vantex provides exceptional performance combined with a long service life in temperatures up to + 40°C (+ 104°F), and tolerates - 40°C (- 40°F) to + 70°C (+ 158°F) for short durations.

### Available capacity after constant voltage charge Available charge current 0.1 C<sub>5</sub>A or 0.2 C<sub>5</sub>A at + 20°C (+68°F)

Vantex VTX1 L
L type cell
15 – 1700 Ah
For low rate discharges over long periods between 1 and 100 hours

Vantex VTX1 M
M type cell
8 – 1330 Ah
For varied loads with low and high discharge rates, between 30 minutes and 3 hours





Our straightforward design promotes smooth handling, fitting and operation

- All batteries arrive filled with electrolyte and ready charged.
- The batteries have a long storage period of up to two years in normal conditions, and can be stored at elevated temperatures in certain circumstances.
- Up to ten cells can be configured into single integrated blocks connected in series.
- Adaptable block configuration allows for quick and simple installation.

“  
A simple approach:  
our modular system  
allows versatile  
block configurations  
”

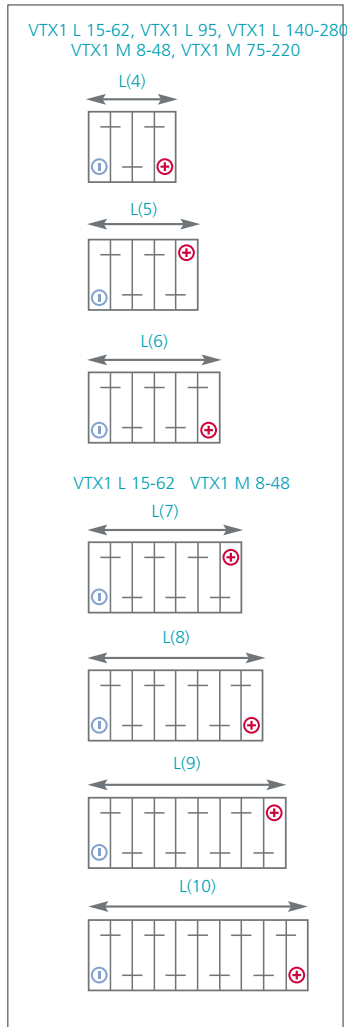
### Vantex construction features



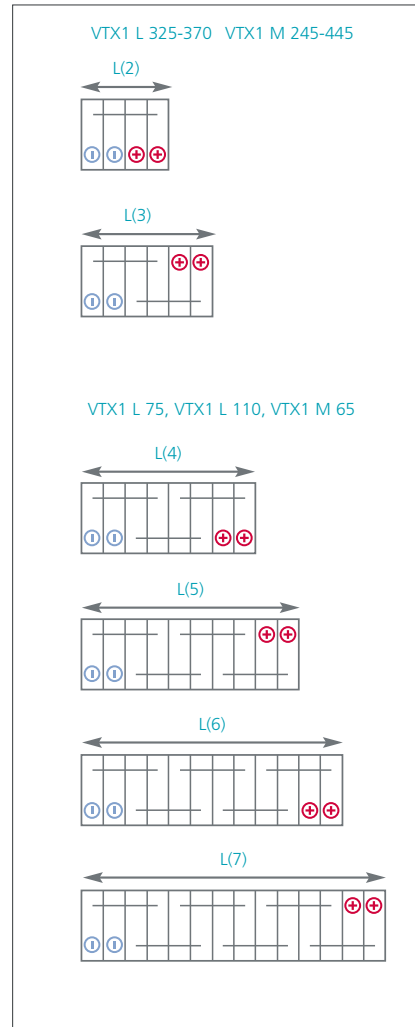


# Adaptable block configurations

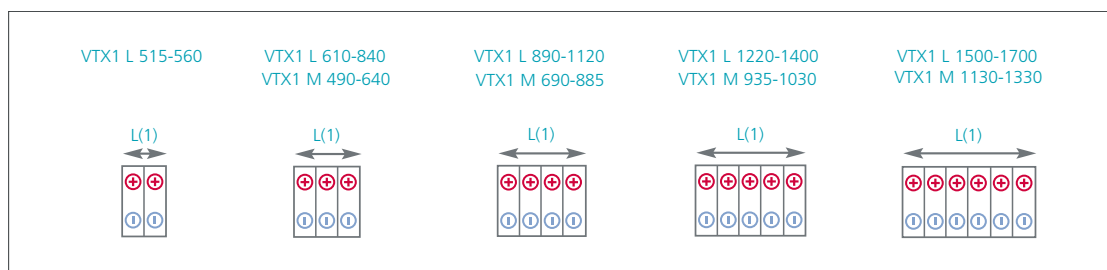
## With single pole bolts



## With double pole bolts



## With 2-6 bolts per pole, crosswise mounted on racks

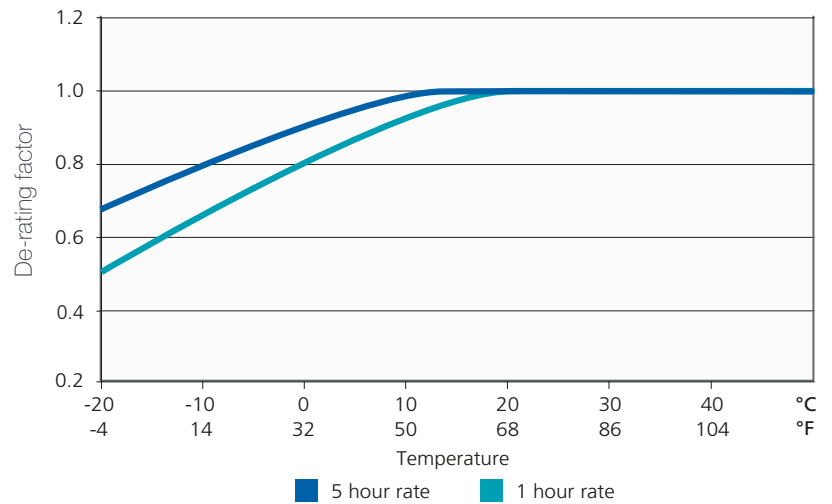


## The practical choice straightforward - usage and installation

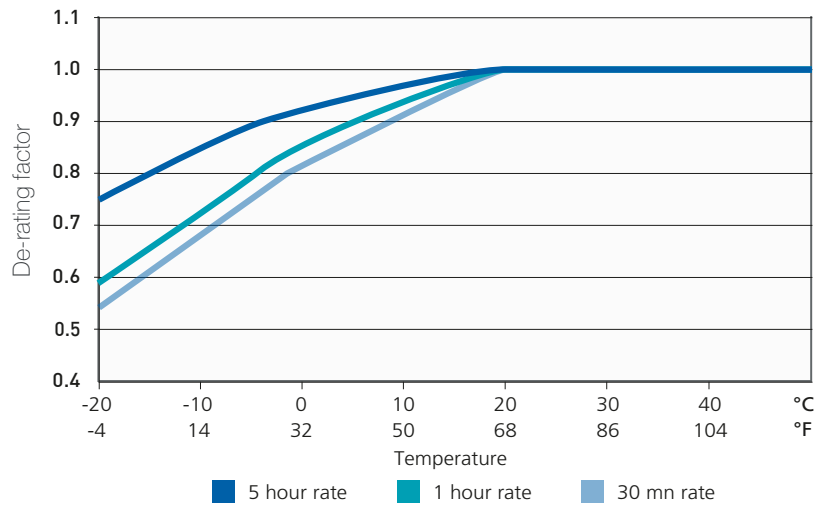
### Batteries with a wide range of specifications

- The capacity of Vantex batteries extends from 8 – 1700 Ah in a choice of two ranges.
- VTX1 L energy range, optimized for long discharge periods with a relatively low current.
- VTX1 M medium power range, especially designed for mixed loads with varying current.

Temperature de-rating factors for L type cell



Temperature de-rating factors for M type cell







“  
The Vantex battery design meets the highest international quality, safety and environmental standards  
”

## Electrical specifications

- Certified IEC 62259 – Secondary cells and batteries containing alkaline or other non-acid electrolytes – Nickel-cadmium prismatic secondary single cells with partial gas recombination. Vantex exceeds gas recombination requirements.
- Certified IEC 60623 – Secondary cells and batteries containing alkaline or other non-acid electrolytes – Vented nickel-cadmium prismatic rechargeable single cells.

## Safety

- Complies with EN 50272-2 / IEC 62485-2 – Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries – The protective covers for terminals and connectors, the insulated cables are compliant with IP2 level protection against electrical shocks according to safety standard.

## Quality

- ISO 9001 and ISO 14001
- Alcad world class continuous programme

## Environment & Recycling

- Fully recyclable
- RoHS – Despite batteries and accumulators not being within the remit of the RoHS directive, Alcad has taken voluntary steps to ensure that the substances forbidden by RoHS are not present in the battery, except in the electro-chemical core.
- REACH – Alcad has agreed internal procedures to conform to the European REACH (Registration, Evaluation, Authorisation and Restriction of Chemical Substances) Regulation.



## Tailored support for all our customers from start to finish

Customers around the globe come to Alcad for the ideal battery solution for their individual requirements.

Our experienced stationary battery experts work on everything from the initial design through to installation and commissioning.

And our after-sales support assists with maintenance, diagnostic services and end of life recycling.

Alcad also provides battery training seminars for relevant personnel as required.

As our customer base grows, we are continuing to expand our network of approved service stations in the Middle East, Asia and North America, to give the best possible service, worldwide.






# A responsible corporate citizen

Alcad is committed to protecting and preserving the environment. We are engaged in a sustained effort to use resources responsibly and to act in a way that clearly demonstrates our great respect for the planet.

Alcad LTD has set up a network of Bring Back Points (BBPS) which receive end-of-life nickel based batteries from end users free of charge. These batteries are then shipped by these BBPs to our recycling facility in Sweden or to fully permitted recycling companies, in compliance with the laws governing trans-boundary waste shipments.

The recycling efficiency of these recyclers exceeds 75% of the nickel based battery weight (a level which exceeds the mandated recycling efficiency of 65% applicable to lead-acid batteries), and recycled materials are reused as secondary raw material for industry.

This network of Bring Back Points comprises over 30 entities, and provides services in all of our major markets in Europe, North America, Asia and Africa. The list of BBPs and their contact details are available on the Alcad website.



THE ALCAD  
PLANT IN  
OSKARSHAMN,  
SWEDEN HAS ITS OWN  
IN-HOUSE RECYCLING  
FACILITY

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## Reliability inside

# ALCAD

[www.alcad.com](http://www.alcad.com)