

Atlas Copco

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Transforming power supply with our mobile microgrid

Container energy solutions range



Your path to energy conversion

Atlas Copco's consolidated power management range sits at the heart of the energy supply transformation.

Our mobile, containerized energy conversion systems are designed for fast deployment to provide access to reliable power and energy.

In projects such as events powered by generators, the ZBC range acts as a buffer for variable loads and maximizes fuel savings.

In work sites like mines, where power factors are variable, the ZBCs protect the quality of energy.

In applications, such as construction sites, where usually generators are oversized, damaging engines due to low loads, a ZBC can support them as a booster. Peak shaving operations during high demand or while covering rush peaks of cranes for instance require a ZBC battery energy storage system to optimize the full hybrid solution.

The portable design and versatility for various applications, make the ZBC range an indispensable asset in rental fleets as a solution that will keep utilization at the highest level. Even when energy is only stored in the ZBC, customers will be able to use it for energy trading. Instead of investing in the network, the ZBC range can be used as a buffer to provide practical solutions for EV charging stations, where capacities are increasing over time. This range of ESS has a structure that serves in cold and hot regions with batteries that are built to last.

Furthermore, operators can synchronize several models, which can become the heart of any microgrid, storing and delivering energy coming from several energy sources, including renewables.

The ZBCs are a full range of battery energy storage systems which are driving power supply needs.

 **<1 HOUR FAST RECHARGE**

 **25 tons & 20 feet**
COMPACT & ROBUST

 **>8 UNITS HYBRID POWER PLANTS**

 **>50% INCREASED PRODUCTIVITY**

 **UP TO 90% LESS FUEL AND CO₂ EMISSIONS***

*When working in hybrid mode with power generators

The solution to meet your needs

										
MODEL	POWER ENERGY	APPLICATION	MANUFACTURING	EVENTS	TELECOM BROADCAST	CONSTRUCTION	MOTORS CRANES	RECHARGING POINT	GRID JOBS UTILITIES	RENEWABLES
ZBP 2000	2000 VA 2000 Wh	No se reduction Low loads Pr me power		●		●				○
ZBP 15-60 ZBP 35-40 ZBP 45-60 ZBP 45-75	15/45 kVA 40/60/75 kWh	Peak shaving Low loads Pr me power	○	●	●	●	●			○
ZBP 120-120 ZBP 150-150	120/150 kVA 150/150 kWh	Peak shaving Low loads Pr me power	○	●	●	●	●	●		●
ZBC 250-575	250 kVA 575 kWh	Hybrid Pr me power	●	●	○	●		●	●	●
ZBC 300-300	300 kVA 300 kWh	Hybrid Pr me power	●	●	○	●	○	○	●	○
ZBC 500-250	500 kVA 250 kWh	Peak shaving Pr me power	○			●	●		○	
ZBC 1000-1200	1000 kVA 1200 kWh	Hybrid Pr me power Peak shaving Power booster	●	●	●	●	●	●	●	●

Pr me power Non-stationary demand, not UPS

Low loads Improving a diesel genset performance

Peak shaving Consume peaks totally or partially

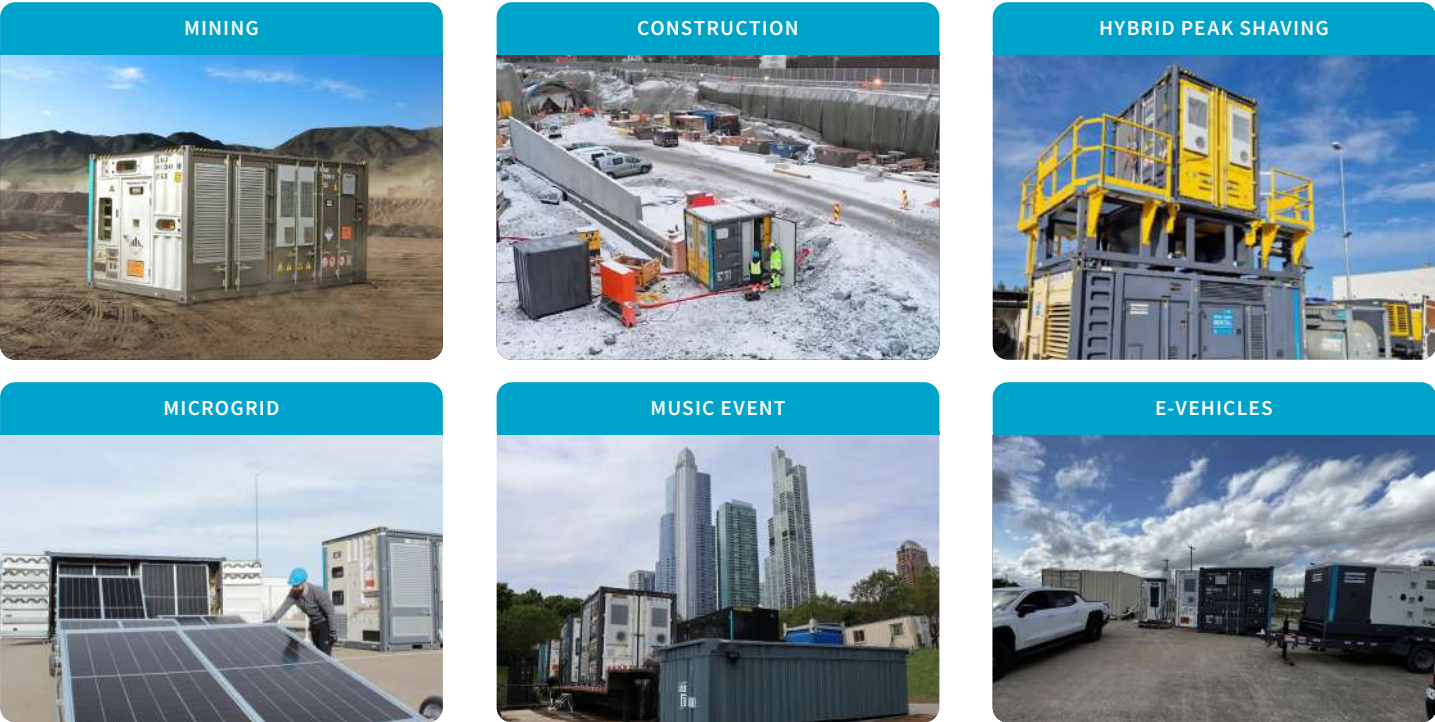
Energy storage Avoid waste of extra energy production

No se reduction Reduce acoustic pollution

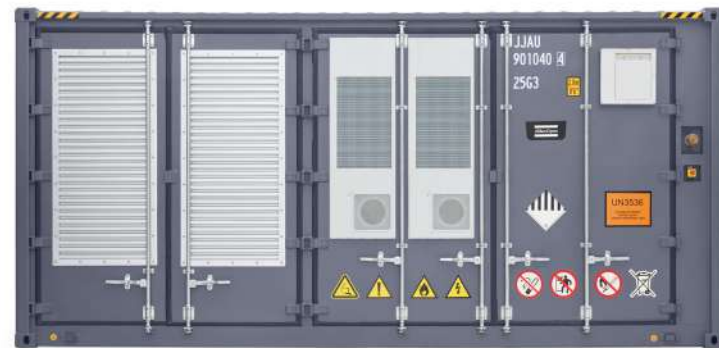
Hybrid Plug and play with other energy sources

● BEST CHOICE

○ SUITABLE



A full portfolio ready for versatile performance and applications



ISLAND Mode

The island mode enables our container with integrated inverter and storage, to be used as a standalone power solution. It's an ideal way to meet the needs of noise-sensitive environments like night operations, sensitive events operations, or to resolve low load challenges.



QUIET TECHNOLOGY

ZBC range noise levels are 54db only. These models deliver reduced noise emissions, for a safer working environment. They are a perfect choice for increasing the productivity in noise-sensitive applications, such as, events and metropolitan construction sites.



FAST CHARGING

In Island mode, the ZBCs can be connected directly to loads to start working. Fast charging for a full recharge in an hour is possible depending on the power source.



COMPACT DESIGN

All required batteries, power converter systems and all that you need are in one box, enabling you to reduce maintenance costs. Designed for plug and play, the full range of 10 feet and 20 feet high cube versions, are built with high energy density.



CLEAN TECHNOLOGY

When used in island mode, CO₂ savings will grow exponentially if the units are powered by renewable energy sources. You can scale the solution to reach the needed energy demand with the smart parallel system.



SAFE OPERATIONS

Advanced extinguishing systems and leakage current protection systems in the ZBCs provide safe operations.



MORE POWER ENDURANCE

Easily increase both energy and storage capacity by using ZBCs in parallel.

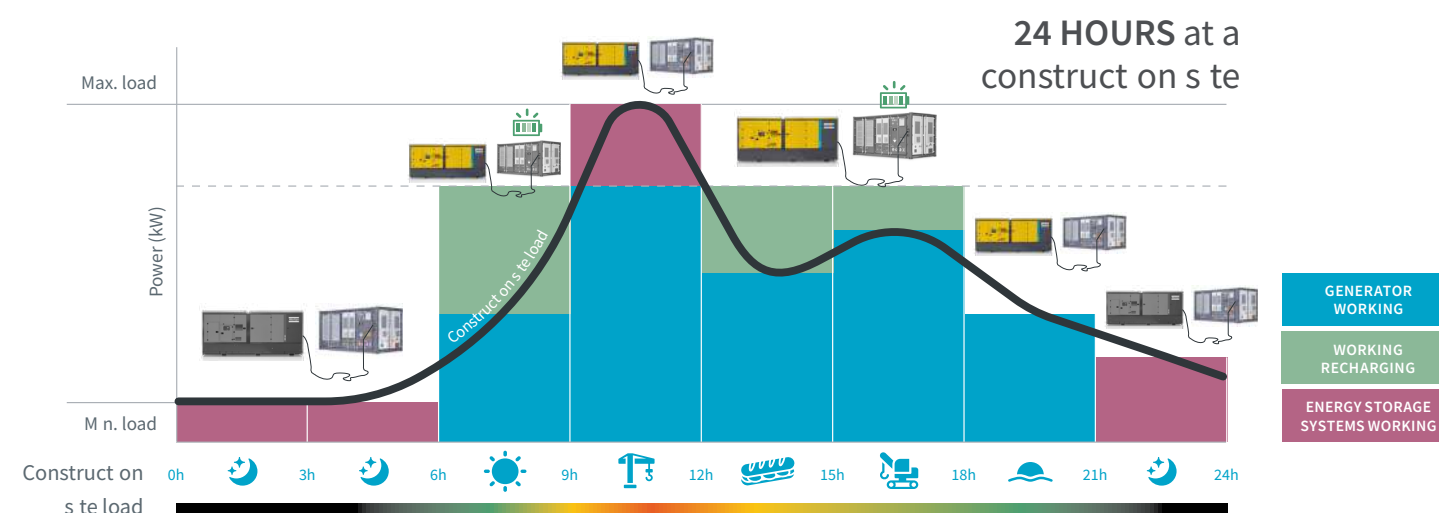
HYBRID Solutions

We offer a product that is compatible with different brands of generators and their control systems, to what we call the Multi-system connection. This will provide versatility to any fleet without investing in new assets. If you prefer to go with Atlas Copco and its PMS controller then you will enjoy the benefits of our ecosystem, efficiency and customer experience taken to the next level.

ZBC range is also compatible for grid jobs. Thanks to the different grid code certificates you can work in

many different countries. Also the possibility to work with an isolated input, will provide to the jobs an easy and safe way of working.

With a wide offer of power connection options, the units are easy to connect to the different energy sources available on site. Also, thanks to ECO Controller, Atlas Copco's Energy Management System (EMS), these units can be synchronized to increase the power offering to match the demand.



PROTECT YOUR GENERATOR FLEET

In hybrid mode with a generator, the ZBC range increases the solutions' overall efficiency, accounting for the peaks of power and low loads. They optimize the generator's performance extending its lifespan by up to 15%, and decreasing general maintenance and overhaul cost by 50%. This means that a 40% smaller generator can be used.

Savings depending on application

- 30 to 90% lower fuel consumption.
- Reduce generator running hours by up to 70%.
- Lower maintenance and operational costs.

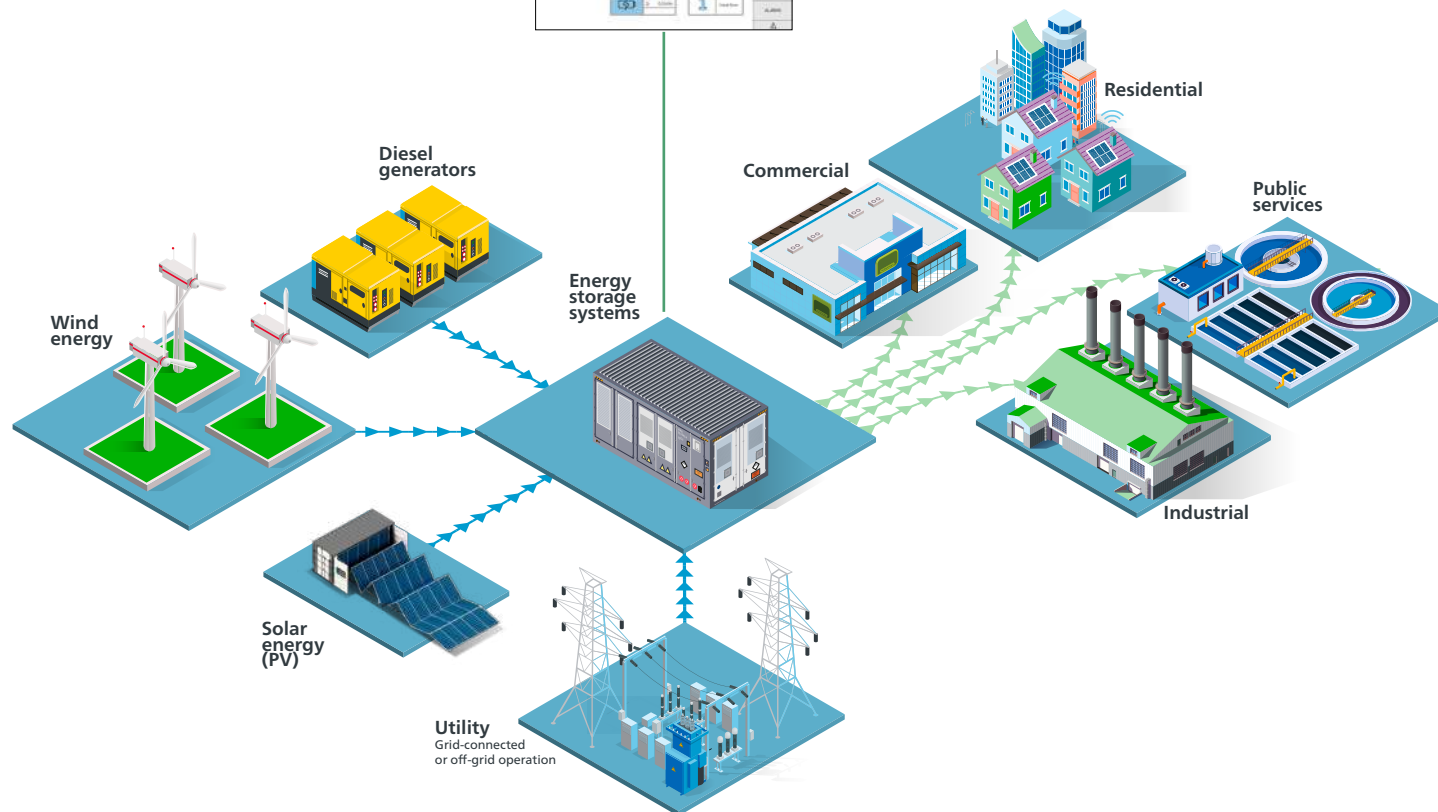
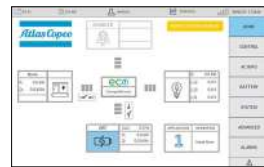


MULTIPLE TASK

More than just one product. You will find many solutions such as Peak Shaving, Energy Trade, Power Booster, Power Factor correction, continuous power mode in one product.

- Lower fuel consumption and emissions.**
30 to 90% depending on application (avoiding the average load for the generator being below 30%).
- Lower service and maintenance costs.**
Depending on application, reduce generator running hours by up to 70%.
- Long lifetime of generator.**
Due to the above points, the lifetime of a generator is extended 5-10 years.

A key piece for the optimization of the energy supply



Microgrids

Energy Storage Systems are the heart of battery based microgrids, and thanks to Atlas Copco's in-house developed EMS, the ECO Controller™, they enhance scalable and decentralized systems with several energy inputs. These microgrids are independent power networks that use local, distributed energy resources to provide grid

backup or off-grid power to meet local electricity needs. Enabling the combination of several energy sources, the heart and the brain— Energy Storage Systems and ECO Controller™ help rental companies and operators to deploy flexible power, decarbonizing operations and achieving significant fuel, energy and lifecycle savings.

ECO Controller, the brain of the solution

The ECO Controller™ by Atlas Copco, is a human-machine interface (HMI) that provides operators with full control over the temporary power applications by optimizing energy generation, distribution, and consumption through advanced data management.

WHY ECO CONTROLLER?

- Fully flexible and customizable
- Provides remote control and is open to communicate with third party monitoring systems

VERSATILITY

- The conductor that orchestrates energy sources with a demandside saving cleaner solutions

WHAT DOES IT DO?

- It controls and monitors the power output integrating the collected data
- Centralizes all hybrid energy sources

FLEXIBLE AND CONSISTENT SOFTWARE

- In-house development
- Same user experience in all products
- Scalable for global solutions and future applications

CONNECTED

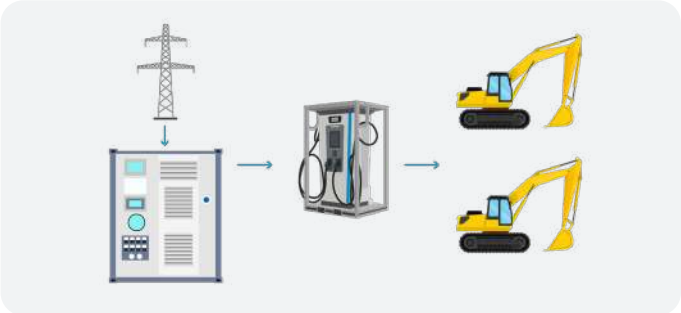
- Manual and automated controls
- Ensures optimal performance
- Increases component lifetime

FRICTIONLESS

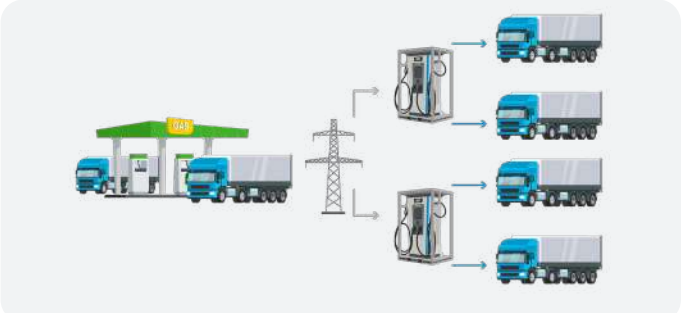
- User friendly
- Dedicated for Rental Industry
- Ensures seamless interface
- Client driven software



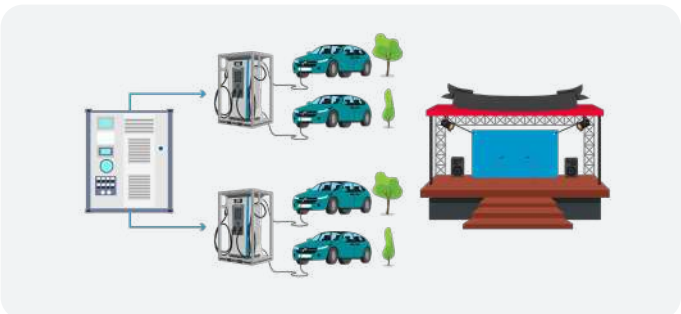
Boosting power on site



- Machinery electrification**
- Boosting the grid
- No need of extending the grid
 - Decrease construction project timeline
 - Increase operational hours



- Temporary recharging station**
- High demand
- No need of installation investment
 - Cover seasonal or trend needs
 - Scalable



- Events**
- Remote, no access to the grid
- Remote areas with no grid access
 - Perfect match with Mobile renewables (solar)
 - Mobile around the site for convenience

EV charging station and grid booster

The electrification of the equipment calls for compliant and efficient recharging stations. Providing a full portfolio of and the Fast Charger ensure flexible performance on site. Atlas Copco's FCP range increases the charging rate of battery-driven heavy machinery, equipment and vehicles.

The modularity of this solution will allow the end user to design the best set up for every application. And, when the grid availability is limited, and the electric and battery-driven loads are peaking, a ZBC solution to boost the grid to cover that high demand.

		FCP 160	FCP 240	FCP 360	FCP 480
General techn cal data					
Rated power nput/output (PF 0.99)	kW	160	240	360	480
Connector type		2 x CCS 2			
Number of ouputs / cable length		2 / 7 meters			
Charg ng Current	A	200	300	500A(l qu d cooled)/ 200A (A r cooled)	
Rated nput voltage (50Hz)	VAC	380 VAC +/- 15			
Ouput voltage range	VDC	200-1.000			
Input Type		4x Powerlock receptacle 400A			
Ingress Portect on IP		55			
Peak eff c ency		96			
Cool ng methode for AC / DC		Forced A r cool ng			
Operat ng temperature	°C	-25°C to 50°C			
Commun cat on nterface		Ethernet/GPS/3G/4G/WIFI			
Sound power level at 1m	dB(A)	<70	<70	<65	<65
D mens ons and we ght					
D mens ons (L x W x H)	mm	1.408 x 1.308 x 2.376	1.408 x 1.308 x 2.376	2.000 x 2.600 x 2.343	2.000 x 2.600 x 2.343
We ght	kg	750	850	1.900	2.000

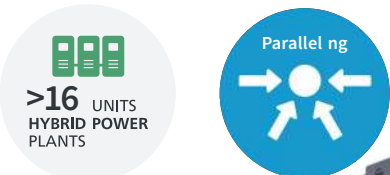


Container range Energy Storage Systems

250 kVA - 500 kVA

SCALABLE SOLUTION

- Parallel ng capab l ty w th >16 un ts work ng as hybr d power plants
- M crogr d poss b l ty w th other energy sources such as gr d, renewables and generators



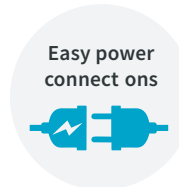
MEET REGULATIONS

- Reduce no se pollut on
- Reduce or el m nate CO₂ and NO_x em ss ons dur ng operat on
- Prov de eff c ent renewable solut ons



PLUG AND PLAY

- External connect ons Input/Output and control for an eas er hybr d zat on
- Alarms and emergency button access
- F re suppress on system as standard (FSS)
- FleetL nk real t me remote mon tor ng.



EFFICIENT PRODUCT DESIGN

- L th um- on phosphate batter es (LFP)
- Bu lt sturdy for tough work env ronments (IP54 des gn)
- A r forced cool ng technology together w th h gh eff c ent HVAC cool ng solut ons.



LOWER COST OF OWNERSHIP

- Increased l fespan of hybr d eet
- Reduced ma ntenance cost
- Increased product v ty wh le meet ng em ss on and no se regulat ons



		ZBC 250-575	ZBC 300-300	ZBC 500-250
General techn cal data				
Nom nal power	kVA/kW	250	300	500
Nom nal energy storage capac ty	kWh	575	308	246
Nom nal voltage (50Hz) (1)	VAC	400	400	400
Battery system voltage	VDC	672-864	672-864	672-864
Nom nal current d scharge	A	360	433	721
Operat ng temperature (2)	C	-20 to 50	-20 to 50	-10 to 50
Sound power level	dB(A)	<60	<60	<60
Battery				
Quant ty	un ts	30	20	20
Battery type		L FePO ₄	L FePO ₄	L FePO ₄
Nom nal voltage	VDC	76.8	76.8	76.8
Rated capac ty (@25 C)	Ah	250	200	160
C-rate d scharge		0.5	1	2
Recommended Depth of d scharge (DoD)		90	90	90
End of l fe (EOL)		70	70	70
Expected cycle l fe (@DoD,EOL,25 C) (3)	Cycles	6.000	6.000	6.000
Battery call brat on (recharge up to 100)		Once per 3 month	Once per 3 month	Once per 3 month
Inverter				
Quant ty (modules)	un ts	4	5	8
Total nom nal power	kW / kVA	250/ 250	300/ 300	500/ 500
Max mum peak power (for seconds) (4)	kVA	275	330	550
Input DC voltage range	Vdc	600-900	600-900	600-900
Max mum passthrough current	A	No l m tat on (5)	No l m tat on (5)	No l m tat on (5)
Bu lt n transformer		Yes	Yes	No
Performance				
D scharge autonomy 100 / 75 rated power	h	2/ 2.6	1/ 1.3	0.5/ 0.7
D scharge autonomy 50 / 25 rated power	h	4/ 8	2/ 4	0.9/ 1.8
Recharg ng t me (@DoD)	h	2	0.9	0.4
Hybr d recommendat on (generator s ze)	kVA	200-1.000	200-1.000	200-1.000
Power factor acceptance		-1 1	-1 1	-1 1
Heat ng / Cool ng system		HVAC	HVAC	HVAC
F re ext ngu sher system ncluded		Yes	Yes	Yes
Derat ng temperature	C	from 40 C	from 40 C	from 40 C
On-gr d and off-gr d appl cat ons		Yes	Yes	Yes
CE compl ant		Yes	Yes	Yes
Total energy through output up to (4)	MWh	2.400	1.300	1.040
Cont nous power mode	kW	250	240	300
D mens ons and we ght				
D mens ons (L x W x H)	mm	2.991 x 2.438 x 2.896	2.991 x 2.438 x 2.896	2.991 x 2.438 x 2.896
We ght	kg	11.000	10.000	10.000
Protect on degree IP		54	54	54
Hous ng		Conta ner 10 ft h gh cube		

Container range Energy Storage Systems

ZBC 1000 kVA - 1200 kVA

1000 kW power output and Energy capacity
of 1200 kWh packed into a HC 20ft container

EASY REMOTE MONITORING

- ECO Controller™ energy management system
- FleetLink intelligent telematics



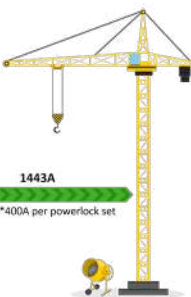
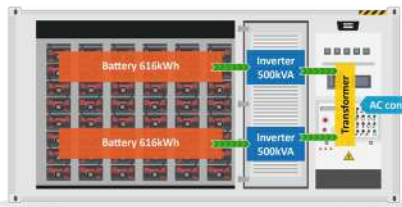
PLUG AND PLAY

- Quick to install and use
- Reduced manpower
- Portable and easy to connect



PERFORMANCE

- Modular capabilities
- Scalable with up to 8 units, delivering up to 8 MW of power.
- Two energy subsystems working synchronised
- Providing redundancy in critical applications
- Reducing the cycles and battery ageing



REDUCED OPERATIONAL COSTS

- Reduced fuel consumption and CO₂ emissions
- Reduced fuel management servicing and maintenance costs
- One energy storage system replaces multiple generators in a power plant
- Thermal management and safe operations



ZBC 1000-1200

General technical data

Nominal power	kVA/kW	1.000
Nominal energy storage capacity	kWh	1.200
Nominal voltage (50Hz) (1)	VAC	400
Battery system voltage	VDC	672-864
Nominal current discharge	A	1.443
Operating temperature (2)	°C	+50
Sound power level	dB(A)	<65

Battery

Quantity	units	80
Battery type		LiFePO ₄
Nominal voltage	VDC	76.8
Rated capacity (@25 °C)	Ah	200
C-rate discharge		1
Recommended Depth of discharge (DoD)		90
End of life (EOL)		70
Expected cycle life (@DoD, EOL, 25 °C) (4)	Cycles	6.000
Battery calibration (recharge up to 100 %)		Once per 3 months

Inverter

Quantity (modules)	units	16
Total nominal power	kW / kVA	1.000
Maximum peak power (for seconds) (4)	kVA	1.100
Input DC voltage range	VDC	600-900
Maximum passthrough current	A	NA
Built-in transformer		No

Performance

Discharge autonomy 100 % / 75 % rated power	h	1 / 1.3
Discharge autonomy 50 % / 25 % rated power	h	2 / 4
Recharging time (@DoD)	h	0.9
Hybrid recommendation (generator size)	kVA	500-2.000
Power factor acceptance		-1 - 1
Heating / Cooling system		HVAC
Fire extinguisher system included		Yes
Derating temperature	°C	from 40 °C
On-grid and off-grid applications		Yes
CE compliant		Yes
Total energy through output up to (4)	MWh	5.200
Continuous power mode	kW	800

Dimensions and weight

Dimensions (L x W x H)	mm	6.058 x 2.438 x 2.896
Weight	kg	25.000
Protection degree IP		54
Housing		Container 20 ft high cube

Mob le Solar Conta ners

ZSC 100-400, ZSC 50-200

LOW OPERATIONAL COSTS

- V rtually no ma ntenance
- Renewable energy from the sun
- Meets no se and em ss on norms
- ZSC 100-400 can save up to 108 tons of CO₂ per year as compared to trad t onal d esel gensets

UP TO
90% LESS
FUEL AND CO₂
EMISSIONS*

EFFICIENT DESIGN

- East-West n stallat on
- Compact and mob le

PLUG AND PLAY

- Easy n stallat on and comm ss on ng
- Easy and automat c operat ons

VERSATILE OPERATIONS

- Renewable energy solut ons for temporary power requ rements
- Solar power generat on to meet needs of temporary energy prov ders or mob le power pro ects

SMART LOAD MANAGEMENT

- Parallel ng capab l ty – scalable solut on
- M crogr d poss b l ty w th other energy sources

ZSC 100-400



20 ft

ZSC 50-200



10 ft

Mob le solar conta ners are des gned to prov de rel able and renewable energy solut ons, espec ally n remote or off-gr d locat ons.

ZSC conta ners are h ghly portable, allow ng for easy transportat on and deployment, mak ng them deal for temporary setups or locat ons where trad t onal power nfrastructure s not ava lable.

By harness ng solar energy, they reduce rel ance on foss l fuels and m n m ze carbon em ss ons, to meet regulatory norms. Once n stalled, the ZSC conta ners prov de free energy from the sun, lead ng to s gn cant sav ngs on energy costs over t me. The m n mal

ma ntenance of the ZSC, reduces operat onal expenses.

The ZSC conta ners can be used n versat le appl cat ons l ke construct on s tes, d saster rel ef operat ons, remote research stat ons, and more. The r ab l ty to prov de a stable and rel able power source n d verse env ronments makes them a valuable asset.

These conta ners are also scalable. Depend ng on the energy needs, mult ple un ts can be deployed to ncrease power capac ty. Th s ex b l ty allows for ta lored energy solut ons that can grow w th pro ect requ rements.

		ZSC 50-200	ZSC 100-400
General techn cal data			
Solar capac ty	kWp	50	100
Energy average generat on per day	kWh/day	200	400
Rated output current (400V)	A	72	144
(Un)fold ng t me	m n	120	240
Voltage output AC	V	400	400
Frequency output	Hz	50	50
Or entat on		Any az muth (east to west deally)	
Module t lt angle		15	15
Slope l m t		No need for level ng	
Operat ng temperature	C / F	-20 to 60 / -4 to 140	
Commun cat on nterface		CAN-PMS / Modbus / RS485 / webconnect	
Area requ red (complete unfolded+workspace)	m ² / sqft	872 (109m x 8m.)	1.199 (109m x 11m.)
Area requ red (spl t unfolded+workspace)	m ² / sqft	754 (58m x 13m.)	986 (58m x 17m.)
D mens ons and we ght			
We ght	kg / Lbs	6.400 kg	12.600 kg
Unfolded D mens ons (L x W x H)	m / ft	102 x 3 x 1 / 335 x 10 x 3.2	102 x 6 x 1 / 335 x 20 x 3.2
Folded D mens ons (L x W x H) ISO 20ft	m / ft	754 (58m x 13m.)	986 (58m x 17m.)

Temporary power solut ons



Product portfolio

ENERGY STORAGE SYSTEMS

PORTABLE
2–10 kVA



MOBILE
15–150 kVA



CONTAINER
250–1000 kVA



FAST CHARGER
160–480 kW



HYBRID GENERATORS

HYBRID

stageV



LIGHT TOWERS

SOLAR



ELECTRIC



DIESEL

stageV



GENERATORS

PORTABLE
1,6–12 kVA

stageV



SPECIALIZED
9–660* kVA

stageV



VERSATILE
9–1250* kVA



LARGE POWER
800–1450 kVA

stageV



*Multiple configurations available to produce power for any size application

DEWATERING PUMPS

ELECTRIC SUBMERSIBLE
up to 18 000 l/m n



ELECTRIC SELF-PRIMING CENTRIFUGAL
833–23.300 l/m n

stageV



SELF-PRIMING CENTRIFUGAL
833–23.300 l/m n



ONLINE SOLUTIONS

FLEETLINK

Intelligent telematics is a system that helps optimize fleet usage and reduce maintenance, ultimately saving time and cutting operating costs.



PUMP SIZING CALCULATOR

With a few inputs, this pump sizing calculator will help you to compare dewatering submersible models and find the right one for you.



ECO CALCULATOR YOUR SIZING TOOL

A useful calculator to help you choose the best solution for your power and lighting needs.



Atlas Copco

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