

# zeroCO<sub>2</sub> - XL Shell 54K on-grid

## Solution:

XL Shell is a plug & play system for managing, converting and exploiting energy in systems with high power demand and storage dimensions which determine deferred use of all the accumulated energy for several hours. Made with a loadbearing structure in powder-coated galvanized sheet metal with insulated and sealed infill panels with IP54 protection rating, inside which are housed the electrochemical storage batteries and the electrical power panel including PCS converters, EMS device that allows you to implement customized management logics (self-consumption, peak shaving, and energy trading), disconnectors on-board and panel protections; all pre-wired from the factory right down to the user-side interfaces.

- Pylontech H32148-C storage batteries for 0.5C charge/discharge rate;
- Powers from 62,5 kW to 500 kW and minimum storage size of 218 kWh in a single configuration;
- Expandable sizes with executions on request;
- Possibility of parallel connection to expand the power;
- Integrated fire suppression system;
- Air conditioning with integrated cell operating temperature control.



## Dimensions:

Width: 3787 mm

Height: 2464 mm

Depth: 2292 mm

*XL Shell 54K on-grid*



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<b>XL Shell 54K</b>	<b>120K</b>	<b>180K</b>	<b>240K</b>	<b>300K</b>
Dimensions [WxD, mm]	3787x2464x2292			
Number of batteries pile in the basic version	2	3	4	5
Number of optional additional batteries [n]	from 1 to 3	from 1 to 2	1	0
Weight [kg]	5950+(n x 1150)	7100+(n x 1150)	8250+(n x 1150)	9400
Sound power [dB]	<79			
Sound pressure [dB(A)] (*)	<65			
PCS technology	Transformerless			
<b>AC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Maximum apparent power [kVA]	132	198	264	330
AC input type	5 wire (3Ph + N + PE)			
Number and maximum connection cable section per phase [mmq]	2 x 185 (L1, L2, L3) - 1 x 185 (N, PE) / Eyelet M8			
Voltage range [V]	400 (±10%)			
Rated/Max electric current [A]	±176 / ±200	±264 / ±300	±352 / ±400	±440 / ±500
Rated frequency [V-Hz]	400 - 50/60			
Power factor	0,8 ~ 1 (Leading / Lagging)			
Current DC component [%]	≤ 0,5			
Harmonic content THDi [%]	≤ 3			
AC and DC start function	Yes			
Current switching time [ms]	≤ 10			
Conversion efficiency [%]	≥ 97			
Standby power consumption [W]	<3200			
Permissible short-circuit current of short duration [kA]	6			
<b>DC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Voltage range	680 - 1000			
Voltage error, Constant voltage accuracy, Voltage and current limiting characteristic [%]	±1			
<b>ENERGY STORAGE</b>				
Cell technology	Li-ion (LFP)			
Battery module	H32148-C			
Controller BMS	SC1000-200J-C (internal power supply)			
Module efficiency [%]	95			
Battery module quantity	46+(n x 23)	69+(n x 23)	92+(n x 23)	115
Rated electric current [A]	148+(n x 74)	222+(n x 74)	296+(n x 74)	370
Maximum electric current [A]	296+(n x 148)	444+(n x 148)	592+(n x 148)	740
Nominal capacity [kWh/Ah]	218+(n x 109)	327+(n x 109)	436+(n x 109)	545
Depth of Discharge DOD [%]	90% (8 - 98% SOC)			
Usable capacity [kWh]	196+(n x 98)	294+(n x 98)	392+(n x 98)	491
<b>AMBIENT CONDITIONS</b>				
Working temperature range [°C]	0 ~ 50 (Derating over 45°C)			
Working humidity range [RH%]	<95 (without condensation)			
Storage temperature range [°C]	-20 ~ +60			
Storage humidity range [RH%]	0 ~ 95 (without condensation)			
System cooling	Air cooled monoblock unit			
Altitude	<3000			
<b>COMMUNICATION</b>				
Communication interfaces	RS485, LAN, WAN, CAN, ModBus RTU, TCP/IP			
<b>SAFETY</b>				
Battery overvoltage protection	Software protection			
Battery overcurrent protection	Software protection and DC fuse			
Fire protection systems	Detection, alarm, multipurpose powder extinguishing			
IP protection rating	IP54			
Voltage resistance: input and output - PE [V DC]	3535			
Voltage resistance: input and output - CAN [V DC]	2828			
Surge: Input & Output - PE [kV]	6			
EMC characteristics	2014/35/CE Low Voltage Directive - 2014/30/CE Electromagnetic compatibility			
MTBF (Mean expected time between two malfunctions) [h]	100000			
Compliance with connection regulations	EN 50549 - VDE AR-N 4105			
Warranty [years]	2			
Operational life [years]	15+			
Dangerous goods transport certificate	UN38.3			

(\*) Sound pressure level referred to a 2m distance from the device

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# zeroCO<sub>2</sub> - XL Shell 76K on-grid

## Solution:

XL Shell is a plug & play system for managing, converting and exploiting energy in systems with high power demand and storage dimensions which determine deferred use of all the accumulated energy for several hours. Made with a loadbearing structure in powder-coated galvanized sheet metal with insulated and sealed infill panels with IP54 protection rating, inside which are housed the electrochemical storage batteries and the electrical power panel including PCS converters, EMS device that allows you to implement customized management logics (self-consumption, peak shaving, and energy trading), disconnectors on-board and panel protections; all pre-wired from the factory right down to the user-side interfaces.

- Pylontech H32148-C storage batteries for 0.5C charge/discharge rate;
- Powers from 62,5 kW to 500 kW and minimum storage size of 654 kWh in a single configuration;
- Expandable sizes with executions on request;
- Possibility of parallel connection to expand the power;
- Integrated fire suppression system;
- Air conditioning with integrated cell operating temperature control.



## Dimensions:

Width: 4770 mm

Height: 2464 mm

Depth: 2292 mm

*XL Shell 76K on-grid*



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<b>XL Shell 76K</b>	<b>120K</b>	<b>180K</b>	<b>240K</b>	<b>300K</b>
Dimensions [WxD, mm]	4770x2464x2292			
Number of batteries pile in the basic version	7			
Weight [kg]	12800	12830	12860	12890
Sound power [dB]	<79			
Sound pressure [dB(A)] (*)	<65			
PCS technology	Transformerless			
<b>AC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Maximum apparent power [kVA]	132	198	264	330
AC input type	5 wire (3Ph + N + PE)			
Number and maximum connection cable section per phase [mmq]	2 x 185 (L1, L2, L3) - 1 x 185 (N, PE) / Eyelet M8			
Voltage range [V]	400 (±10%)			
Rated/Max electric current [A]	±176 / ±200	±264 / ±300	±352 / ±400	±440 / ±500
Rated frequency [V-Hz]	400 - 50/60			
Power factor	0,8 ~ 1 (Leading / Lagging)			
Current DC component [%]	≤ 0,5			
Harmonic content THDi [%]	≤ 3			
AC and DC start function	Yes			
Current switching time [ms]	≤ 10			
Conversion efficiency [%]	≥ 97			
Standby power consumption [W]	<3200			
Permissible short-circuit current of short duration [kA]	6			
<b>DC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Voltage range	680 - 1000			
Voltage error, Constant voltage accuracy, Voltage and current limiting characteristic [%]	±1			
<b>ENERGY STORAGE</b>				
Cell technology	Li-ion (LFP)			
Battery module	H32148-C			
Controller BMS	SC1000-200J-C (internal power supply)			
Module efficiency [%]	95			
Battery module quantity	161			
Rated electric current [A]	518			
Maximum electric current [A]	1036			
Nominal capacity [kWh/Ah]	763			
Depth of Discharge DOD [%]	90% (8 - 98% SOC)			
Usable capacity [kWh]	687			
<b>AMBIENT CONDITIONS</b>				
Working temperature range [°C]	0 ~ 50 (Derating over 45°C)			
Working humidity range [RH%]	<95 (without condensation)			
Storage temperature range [°C]	-20 ~ +60			
Storage humidity range [RH%]	0 ~ 95 (without condensation)			
System cooling	Air cooled monoblock unit			
Altitude	<3000			
<b>COMMUNICATION</b>				
Communication interfaces	RS485, LAN, WAN, CAN, ModBus RTU, TCP/IP			
<b>SAFETY</b>				
Battery overvoltage protection	Software protection			
Battery overcurrent protection	Software protection and DC fuse			
Fire protection systems	Detection, alarm, multipurpose powder extinguishing			
IP protection rating	IP54			
Voltage resistance: input and output - PE [V DC]	3535			
Voltage resistance: input and output - CAN [V DC]	2828			
Surge: Input & Output - PE [kV]	6			
EMC characteristics	2014/35/CE Low Voltage Directive - 2014/30/CE Electromagnetic compatibility			
MTBF (Mean expected time between two malfunctions) [h]	100000			
Compliance with connection regulations	EN 50549 - VDE AR-N 4105			
Warranty [years]	2			
Operational life [years]	15+			
Dangerous goods transport certificate	UN38.3			

(\*) Sound pressure level referred to a 2m distance from the device

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# zeroCO<sub>2</sub> - XL Shell 98K on-grid

## Solution:

XL Shell is a plug & play system for managing, converting and exploiting energy in systems with high power demand and storage dimensions which determine deferred use of all the accumulated energy for several hours. Made with a loadbearing structure in powder-coated galvanized sheet metal with insulated and sealed infill panels with IP54 protection rating, inside which are housed the electrochemical storage batteries and the electrical power panel including PCS converters, EMS device that allows you to implement customized management logics (self-consumption, peak shaving, and energy trading), disconnectors on-board and panel protections; all pre-wired from the factory right down to the user-side interfaces.

- Pylontech H32148-C storage batteries for 0.5C charge/discharge rate;
- Powers from 62,5 kW to 500 kW and minimum storage size of 872 kWh in a single configuration;
- Expandable sizes with executions on request;
- Possibility of parallel connection to expand the power;
- Integrated fire suppression system;
- Air conditioning with integrated cell operating temperature control.



## Dimensions:

Width: 5753 mm

Height: 2464 mm

Depth: 2292 mm

*XL Shell 98K on-grid*



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<b>XL Shell 98K</b>	<b>120K</b>	<b>180K</b>	<b>240K</b>	<b>300K</b>
Dimensions [WxD, mm]	5753x2464x2292			
Number of batteries pile in the basic version	9			
Weight [kg]	16670	16700	16730	16760
Sound power [dB]	<79			
Sound pressure [dB(A)] (*)	<65			
PCS technology	Transformerless			
<b>AC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Maximum apparent power [kVA]	132	198	264	330
AC input type	5 wire (3Ph + N + PE)			
Number and maximum connection cable section per phase [mmq]	2 x 185 (L1, L2, L3) - 1 x 185 (N, PE) / Eyelet M8			
Voltage range [V]	400 (±10%)			
Rated/Max electric current [A]	±176 / ±200	±264 / ±300	±352 / ±400	±440 / ±500
Rated frequency [V-Hz]	400 - 50/60			
Power factor	0,8 ~ 1 (Leading / Lagging)			
Current DC component [%]	≤ 0,5			
Harmonic content THDi [%]	≤ 3			
AC and DC start function	Yes			
Current switching time [ms]	≤ 10			
Conversion efficiency [%]	≥ 97			
Standby power consumption [W]	<3200			
Permissible short-circuit current of short duration [kA]	6			
<b>DC PARAMETERS</b>				
Rated power [kW]	120	180	240	300
Voltage range	680 - 1000			
Voltage error, Constant voltage accuracy, Voltage and current limiting characteristic [%]	±1			
<b>ENERGY STORAGE</b>				
Cell technology	Li-ion (LFP)			
Battery module	H32148-C			
Controller BMS	SC1000-200J-C (internal power supply)			
Module efficiency [%]	95			
Battery module quantity	207			
Rated electric current [A]	666			
Maximum electric current [A]	1332			
Nominal capacity [kWh/Ah]	981			
Depth of Discharge DOD [%]	90% (8 - 98% SOC)			
Usable capacity [kWh]	883			
<b>AMBIENT CONDITIONS</b>				
Working temperature range [°C]	0 ~ 50 (Derating over 45°C)			
Working humidity range [RH%]	<95 (without condensation)			
Storage temperature range [°C]	-20 ~ +60			
Storage humidity range [RH%]	0 ~ 95 (without condensation)			
System cooling	Air cooled monoblock unit			
Altitude	<3000			
<b>COMMUNICATION</b>				
Communication interfaces	RS485, LAN, WAN, CAN, ModBus RTU, TCP/IP			
<b>SAFETY</b>				
Battery overvoltage protection	Software protection			
Battery overcurrent protection	Software protection and DC fuse			
Fire protection systems	Detection, alarm, multipurpose powder extinguishing			
IP protection rating	IP54			
Voltage resistance: input and output - PE [V DC]	3535			
Voltage resistance: input and output - CAN [V DC]	2828			
Surge: Input & Output - PE [kV]	6			
EMC characteristics	2014/35/CE Low Voltage Directive - 2014/30/CE Electromagnetic compatibility			
MTBF (Mean expected time between two malfunctions) [h]	100000			
Compliance with connection regulations	EN 50549 - VDE AR-N 4105			
Warranty [years]	2			
Operational life [years]	15+			
Dangerous goods transport certificate	UN38.3			

(\*) Sound pressure level referred to a 2m distance from the device

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