THE COMFORT
YOU LIVE

ARYA

GREEN DIVISION

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YOU LIVE

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GREEN: The Energy of the Future, Today

Welcome to the GREEN catalogue, the beating heart of our vision for a more sustainable future. This catalogue represents more than just a collection of products: it is a concrete commitment to the energy transition, a guide for those who wish to combine innovation, efficiency and respect for the environment.

Within these pages you will find our advanced photovoltaic and solar thermal solutions, technologies designed to capture and transform the sun's energy into a clean, affordable and renewable resource. Each product is the result of years of research and development, designed to meet both domestic and business needs, with a focus on high performance, reliability and durability.

The choice to invest in renewable energy is not only an economic opportunity, but a step towards a necessary change for the planet.

With our photovoltaic systems, you can produce your own electricity, reducing your dependence on fossil fuels and lowering your utility bills. With our solar thermal systems, you will have an environmentally friendly and efficient solution for heating water, improving your daily comfort without compromising natural resources.

Choosing GREEN means actively participating in a global movement to reduce CO emissions, preserve the environment and ensure a better future for the next generations. Thanks to our technologies, you will not only save on energy costs, but also contribute to a positive change for the planet.

Join the change with GREEN. Discover our solutions and be inspired by the inexhaustible energy of the sun. Together, we can build a brighter, more sustainable tomorrow.

PHOTOVOLTAIC

SOLAR THERMAL

ARYA

PHOTOVOLTAIC

TABLE OF CONTENTS

GREEN DIVISION

DIVISION GREEN

TABLE OF CONTENTS

SOLAR THERMAL

PHOTOVOLTAIC

ARYA

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DIVISION PHOTOVOLTAICS

Welcome to our Photovoltaic Section

The future energy is here, shining under the sun. With great enthusiasm, we present our exclusive selection of photovoltaic solutions, designed to transform sunlight into clean, efficient and sustainable energy. At the heart of innovation and technological excellence, our range of photovoltaic products embodies our commitment to a greener future and a healthier planet.

Whether you are looking for solar panels for your home, business or large-scale projects, in our section you will find tailor-made solutions for every need. From the incomparable efficiency of our monocrystalline panels to the flexibility of crystalline poles and innovative hybrid solutions, each product has been selected to offer maximum performance, durability low ecological footprint.

Through photovoltaics, we offer not only affordable, renewable energy but a promise of energy autonomy, allowing you to reduce your energy bills and actively contribute to the fight against climate change. Our selection is accompanied by a detailed guide to the features, advantages and technical specifications of each model, to help you choose the most suitable solution for your needs.

Discover how our photovoltaic systems can light your way to a sustainable energy future, where every ray of sunshine is a step towards a cleaner, greener world.

The Benefits of Photovoltaics: Clean Energy for a Sustainable Future

The adoption of a photovoltaic system is a strategic choice not only for the environment but also for the personal and collective economy. This state-of-the-art technology, which converts sunlight into electricity, offers numerous benefits, marking the step towards a more sustainable and self-sufficient future. Here are the main advantages of a photovoltaic system:

Cost Savings: From the moment a photovoltaic system is switched on, it significantly reduces utility costs by producing free electricity directly from the sun. Over time, the initial investment is largely recouped through the savings generated.

Clean Energy: Photovoltaics produce energy in an environmentally friendly way, without emitting greenhouse gases or pollutants. This contributes to combating climate change and reducing the carbon footprint, promoting the health of the planet.

Energy Independence: Having a photovoltaic system means reducing dependence on traditional energy sources and their continuous price increases, moving towards greater energy independence.

Incentives and Tax Reductions: Many countries offer economic incentives, tax deductions or preferential tariffs for energy fed into the grid, making the investment even more profitable.

Versatility and Scalability: Photovoltaic systems can be installed in various configurations and sizes, adapting to different needs, from small homes to large companies and solar parks.

Long Life and Low Maintenance: Photovoltaic panels are designed to withstand the elements and guarantee high performance for more than 25 years, with minimal maintenance requirements.

Enhancing the value of real estate: installing a photovoltaic system increases the value of real estate, making it more attractive on the market due to its energy efficiency.

Contribution to the grid: Photovoltaic systems not only cover the user's energy needs but can also feed excess energy into the electricity grid, contributing to the distribution of clean energy.

Opting for photovoltaic solar energy means choosing a state-of-the-art solution that combines economic, environmental and social benefits, moving confidently towards a greener, more sustainable future.

ARYA

ONLINE TRAINING | ASSISTANCE WITH PRODUCT SELECTION | SUPPORT TO BUDGETING | AFTER-SALES SERVICE

ONLINE TRAINING DEDICATED TO:
INTERNAL STAFF / AGENTS / CUSTOMERS

TOPICS COVERED

Introduction to photovoltaic systems
Operating principles of photovoltaic panels / Types of photovoltaic systems / Applications of photovoltaic systems / Panel orientation and tilt.

Components of photovoltaic systems
Photovoltaic panels: operation, types, materials and information on positioning, orientation and shading.

Inverters: operation, types, choosing the right inverter
Batteries: operation, types, choice of suitable batteries
Bracketing: selection of the most suitable structures for the system's con- struction.

Maintenance of photovoltaic systems
Cleaning photovoltaic panels: dust and dirt removal, panel maintenance.

ASSISTANCE PRODUCT SELECTION

Assistance in choosing the most suitable product
When choosing the type of product to be used, it must be borne in mind that there are different materials with different qualities: we always choose high-quality materials that ensure more consistent and satisfying performance for our customers.

Pre-Sales Assistance
We have a team of industry experts can help you every step of the way, from purchasing to setting up and positioning your solar panels. We will take care of pointing you towards the most suitable product for your needs, comprehensively explaining all the advantages that solar energy offers.
Whether you ask us for a quote for a photovoltaic system for your home or business, or for agricultural fields, energy communities, or for a solar kit for your , cabin, or boat, or even for a special solution just for you, you will always receive a fully customised proposal tailored to your needs.

QUOTATION ASSISTANCE

Free Quote
We offer free, customised estimates. All quotations are prepared by qualified personnel who analyse the characteristics of the installation requested from us.

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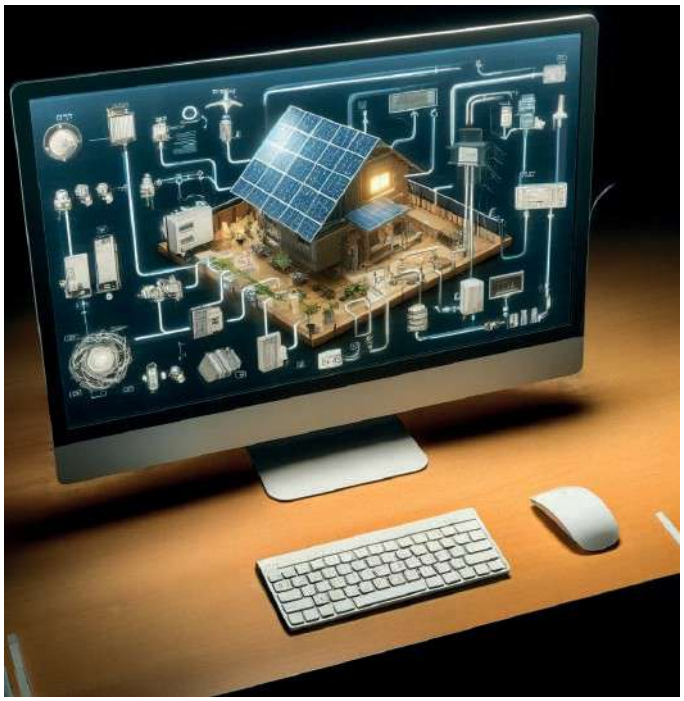


AFTER-SALES SERVICE

Our Commitment Continues Beyond PurchaseDiscover After-Sales Service for Photovoltaic Products

In our endeavour to provide not only products but also an exceptional customer experience, we are proud to offer comprehensive and attentive after-sales service for all our photovoltaic systems. We understand that purchasing a photovoltaic system represents a significant investment, and we are committed to supporting you every step of the way after installation.

Qualified **Technical Support:** Our team of engineers and technicians is always available to solve any technical problems or malfunctions. We offer fast and effective intervention to ensure that your system operates with maximum efficiency.

Technical Support During Photovoltaic Plant Testing

At our company, we are committed to ensuring that every photovoltaic system is installed with the utmost care and to the highest quality standards. Our technical support during testing is a key element of this commitment, ensuring that your new system works perfectly from day one.

Specialised Assistance: During testing, our team of qualified technicians is present remotely to supervise and guide all stages of the process step by step. We use advanced instrumentation and state-of-the-art technology to verify that every component of the system is installed correctly and functions according to specifications.

Performance Testing: We test the efficiency of the system in various operational aspects to ensure that energy production is optimal.

This includes checking the inverter, solar panels and electrical connections, as well as verifying the inte- gration with the existing power grid.

System Optimisation: During testing, we identify and solve any configuration or performance problems, optimising the system to ensure that it operates at its maximum efficiency. This process includes adjusting system settings and, if necessary, recalibrating components.

Post-Commissioning Support: After commissioning, we remain available for any questions or additional technical support. Our goal is to ensure that every customer is completely satisfied and confident in the use of their photovoltaic system.

Our technical support during the testing of the photovoltaic system is designed to ensure not only technical compliance, but also your total peace of mind, knowing that your investment is safe and productive.

Remote Monitoring: Thanks to advanced technologies, we constantly monitor the operation of your installations remotely. This allows us to promptly identify and resolve any anomalies, often before you notice the problem.

Quick Response to **Questions and Doubts:** Our customer support team is always ready to answer any questions about your PV system, from billing to technical aspects.

Through these services, we are committed to ensuring that your investment in solar energy is protected and productive. Our after-sales service is a fundamental pillar of our commitment to your satisfaction and to a more sustainable future.

SunPro

WWW.ARYASUNPRO.COM

THE FUTURE OF ENERGY
PROFESSIONAL SOFTWARE FOR PHOTOVOLTAICS

ATTRACTIVE GRAPHIC APPEARANCE

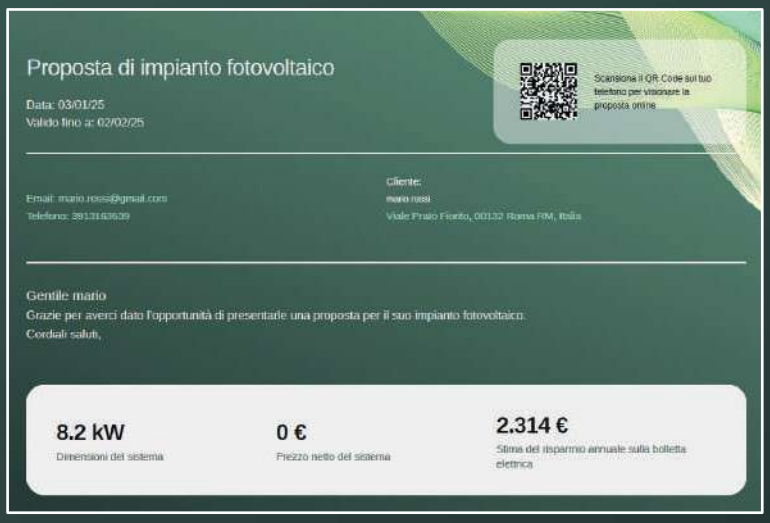
INTELLIGENT DESIGNS WITH YOU

SunPro suggests the best choice of components for the system you are building, avoiding possible mistakes.

GOOGLE MAPS SEARCH AND POSITIONING

From your home address to the design of your plant.

SIMPLE. FAST. PRO



PRECISE.
PREVIEWS THE PANELS ON THE MAP IN 2D AND 3D

With SunPro you can position the system panels directly on the roof of the house.

STRUCTURE DIAGRAM INSTALLATION

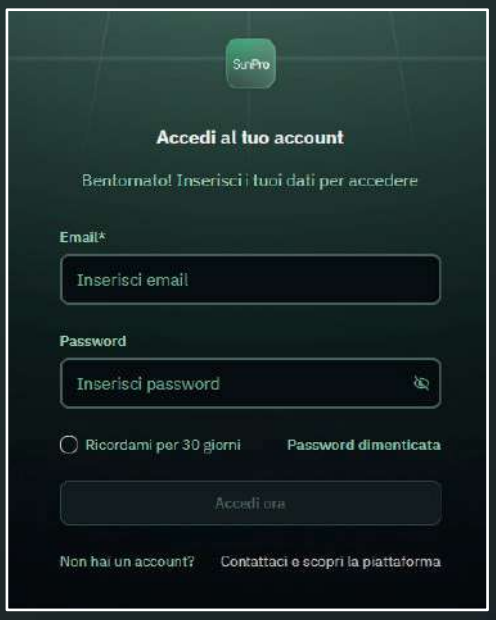
Calculation project structures (brackets, ballasts, frames and frameworks).

QUOTE GENERATED QUICKLY AND EFFICIENTLY

Quote complete of Calculation of the plant's profit and loss account

REGISTER YOUR COMPANY AND MANAGE YOUR CUSTOMERS

Each customer can be managed individually according to needs.

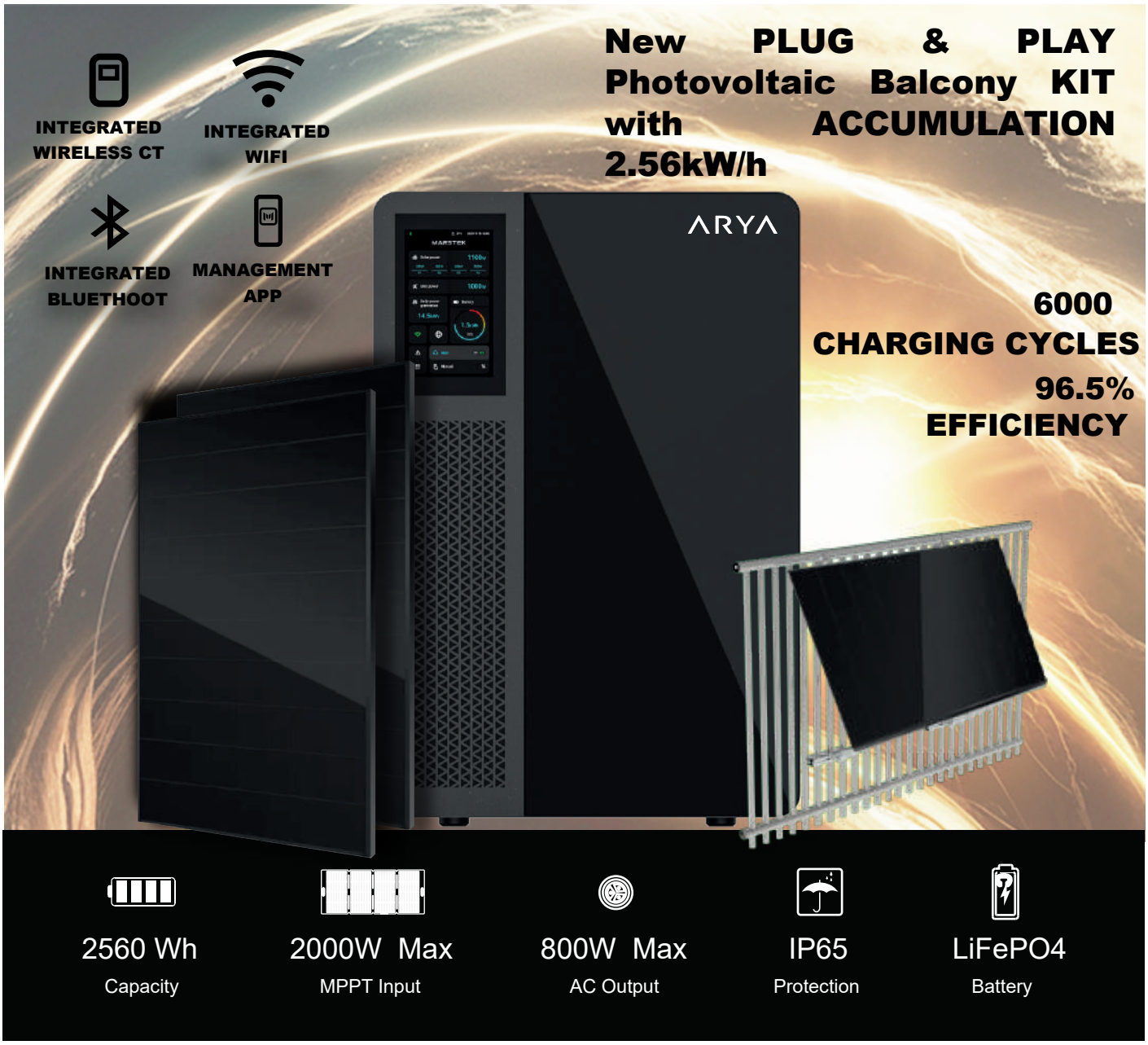


CERBERUS 3.1

THE SUSTAINABLE FUTURE STARTS TODAY!Solar Energy from your Balcony

2560 Wh	2000W Max	800W Max	IP65	LiFePO4
Capacity	MPPT Input	AC Output	Protetion	Battery

New PLUG & PLAY Photovoltaic Balcony KIT with ACCUMULATION 2.56kW/h



MAIN FEATURES

Storage Battery 2.56 kW/h
Sufficient capacity to ensure constant and reliable power.

Integrated 800 Watt Inverter
High-quality converter for maximum efficiency in energy management.

2 Full Black Panels of 410 Watts Each Aesthetically pleasing and high-performance solar panels with a total of 860 Watts.

Balcony Anchorage Brackets
Robust and secure mounting system designed for easy installation.

Download on the App Store

GET IT ON Google Play

OPERATION OF THE KIT

CERBERUS3.1 is an advanced plug & play solution for self-generating solar energy directly in your home. Designed to be easily installed on any balcony, this integrated system combines efficiency, design and advanced technology to deliver a state-of-the-art energy experience.

Solar Energy
The two 410 Watt Full Black photovoltaic panels capture sunlight and convert it into electrical energy (direct current - DC).

Energy Conversion
integrated 800 Watt inverter converts electrical energy from direct current (DC) to alternating current (AC), making it compatible for domestic use.

Energy Storage
Excess energy that is not immediately used is stored in the 2.56 kWh storage battery. This allows solar energy to used even when the sun is not available, such as during the night or on cloudy days.

Monitoring and Optimisation
The wireless CT constantly monitors the flow of energy, providing detailed data on production, consumption and storage. This data can be visualised via the dedicated app, which utilises the system's WiFi and Blueto- oth connectivity, allowing users to optimise the use of the solar energy produced.

Energy Utilisation
The converted and stored energy can be used to power various household electrical devices, reducing dependency on the power grid and lowering energy costs.

EASY INSTALLATION

With the CERBERUS 3.1, we have made installing a photovoltaic system simple, fast and affordable for everyone. There is no need to be an expert or to invest time and money in expensive professional installations.
Choose our kit and start benefiting from solar energy now, saving money and helping to protect the environment.

All Inclusive, No Worries
Our kit comes with all the necessary components installation: solar panels, inverters, cables, supports and a detailed instruction manual.
You won't have to worry about buying additional parts or searching for compatible accessories. We have thought of everything for you!

Quick Installation
Thanks to the intuitive design of the kit, the entire installation can be completed in a few hours. You will not have to spend days assembling or configuring the system. In no time, you will be ready to start producing your own clean energy.

ELEGANT DESIGN

CERBERUS 3.1 not only represents a step forward in the use solar energy, it does so unmistakable style. We have combined efficiency and aesthetics to create a product that blends perfectly any environment, adding a touch of elegance to your outdoor space.
Whether you live in a historic building or a modern residential com- , CERBERUS 3.1 integrates effortlessly. The full-black panels and compact structure are designed to blend elegantly with existing design, keeping your balcony's appearance clean and uncluttered.

Compact and Refined Structure

One of the distinguishing features of our kit is its compact design.

No bigger than a computer case, the inverter and other electronic components are enclosed in a minimalist design that takes up very little space.
This allows it to be easily mounted on the balcony without compromising the aesthetics or functionality of your environment.

Full-Black Photovoltaic Panels

Our full-black photovoltaic panels are the heart of the system, and their elegant design is designed to harmonise with any type of architecture. The uniform black surface is not only highly efficient at absorbing sunlight, but also gives your balcony a modern, sophisticated look. These panels represent the perfect balance between advanced technology and refined design.

ENERGY EFFICIENCY

CERBERUS 3.1 stands for high energy efficiency, combining advanced technology and high-quality components to maximise solar energy production. This system is designed to offer optimal performance, significantly your energy costs and environmental impact.
Each component has been chosen and designed to minimise energy losses.
From high quality cables to low resistance connectors, every detail is optimised to ensure that the maximum amount of energy generated by the solar panels reaches your home network.
With high-efficiency full-black solar panels, an advanced inverter and MPPT technology, this kit ensures optimal and sustainable energy production. **Choose our kit for a more efficient and environmentally friendly energy future.**

ENVIRONMENTAL SUSTAINABILITY

CERBERUS 3.1 is not only a smart investment for your energy savings, but also a significant contribution to environmental sustainability. By choosing our kit, you not only reduce your energy costs, but also help protect the planet for future generations.

Reducing CO2 Emissions

Every kilowatt-hour of energy produced by our full-black solar panels is a kilowatt-hour that does not have to be generated by fossil fuel power plants. This translates into a direct reduction of carbon dioxide (CO2) emissions, one of the main greenhouse gases responsible for climate change. With our kit, you can do your part to reduce air pollution and mitigate the greenhouse effect.

Clean and Renewable Energy

Solar energy is one of the cleanest and most renewable energy sources available. Our solar panels capture sunlight and transform it into electricity without producing harmful emissions or hazardous waste. This process does not deplete natural resources and does not harm the environment, contributing to a sustainable energy future.

Use of Eco-Friendly Materials

CERBERUS 3.1 is designed with an emphasis on sustainable materials. The solar panels are made of tempered glass and recyclable materials, while the system structure uses durable and environmentally friendly components. Every element of the kit is designed to minimise ecological impact throughout the product's life cycle.

Reducing Energy Consumption

The advanced inverter and MPPT (Maximum Power Point Tracking) technology ensure that every single ray of sunlight is used to its full potential.
This means you produce more energy with fewer panels, reducing resource consumption and improving overall energy efficiency. Less energy waste translates into greater sustainability.

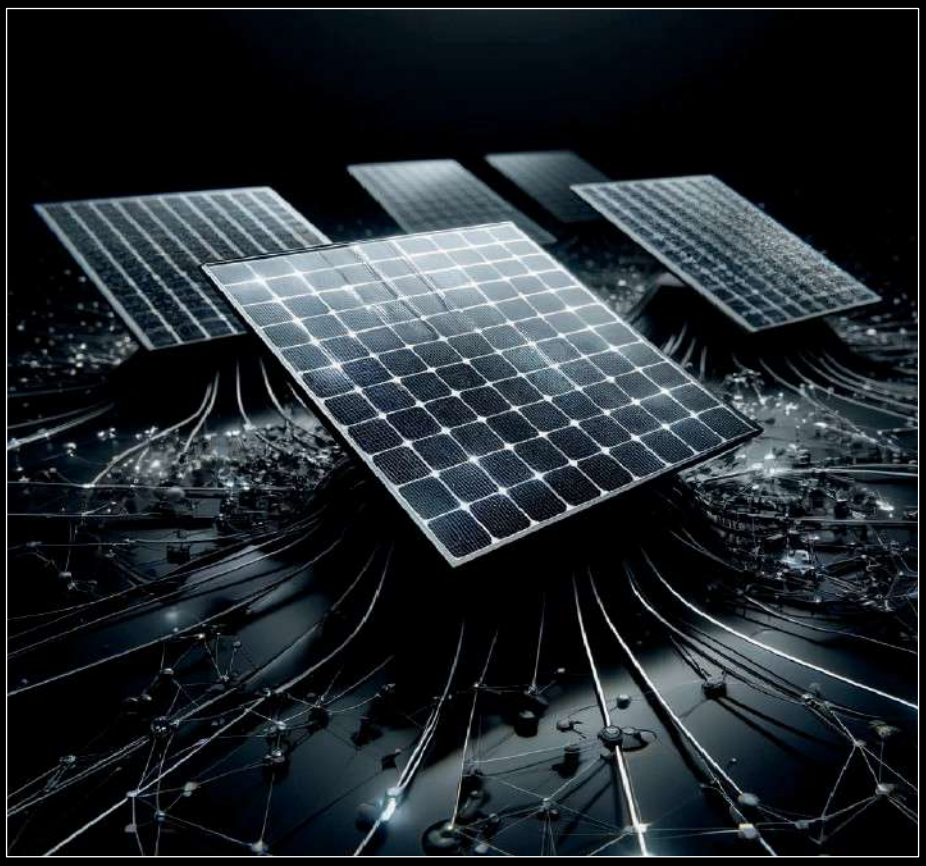
Promotion Energy Self-consumption

With our kit, you can produce and consume energy directly at home, reducing your dependence on the electricity grid and non-renewable energy sources. Self-consumption of energy not only lowers your energy bills, but also reduces the demand for energy from polluting sources, promoting a more sustainable and decentralised energy model.

		Competitor 1	Competitor 2	Competitor 3
CERBERUS 3.1	✓	✓	✗	✓
Integrated microinverter	✓	✗	✗	✓
Non-wall installation	✓	✓	✗	✓
-20°C Performance	✓	✓	✓	✗
Anti-immersion	✓	✓	✓	✗
Capacity/Units	2560Wh/5120Wh		1920Wh	1024Wh
MPPT number	4(2000W)	2 (1200W)	2 (1800W)	2 (1200W)
Cycles of charge	6000+	4000+	3000+	6000+
DC port	MC4	MC4	MC4	Anderson

		CERBERUS 3.1
BATTERY INFORMATION	Capacity	2560Wh
	Cellular Chemistry	LifePO 4
	Life cycles	6000+ Cycles at 80% Capacity
	DoD	90%
	Current	50A
	Battery management system	OVP,UVP,OCP,SCP,OTP,UTP, etc.
MC4*2 FV INPUT	Maximum input power	500W*4
	MPPT tracker	4
	Voltage range	25V~55V
	Maximum input voltage	60V
	Maximum input current	14.5A*4
	MPPT Effi	99.80%
AC OUTPUT (ON GRID)	Power rating	1kW
	Voltage range	220V~230V
	Output frequency	50Hz/60Hz
	Nominal AC current	4.54A/4.34A
	Maximum output current	5.34A
	Output power factor	>0.99
	THDi	<3%
EFFICIENCY	Max. Battery per charge Efficiency	>96.5%
GENERAL	Size	417*265*228mm
	Weight	15±0.5kg
	Material	SPCC
	Operating temp.	- -20~+60°C (Storage -30~+85°C)
	Degree of protection	IP65
	Cooling strategy	Natural
	Altitude	≤2000m
	Humidity	0~95%
	wireless	BT 5.2+WIFI 2.4G
CONFORMITY	Network connection standards	VDE4105
	Regulations	IEC/EN 62109-1/2
	EMC	EN 61000-6-1/-2/-3/-4

PHOTOVOLTAIC PANELS



OUR RANGE OF FV PANELS

Welcome to the Photovoltaic Panels Section

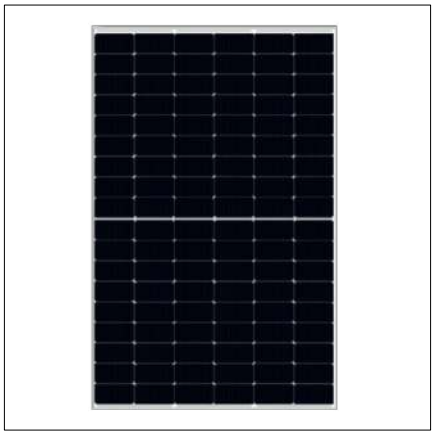
In a world increasingly oriented towards sustainable, cutting-edge renewable energy solutions, monocrystalline photovoltaic panels are the ideal choice for those seeking efficiency, durability and high performance. In our exclusive selection, we have gathered the best monocrystalline photovoltaic panels available on the market, designed to optimise the collection of solar energy and transform it into clean, renewable electricity.

solar cells made from a single silicon crystal, these panels offer superior efficiency compared to other technologies, ensuring optimal energy production even in less favourable light conditions. Their elegant, slim design also makes them an aesthetically pleasing solution, perfect for any type of installation, whether residential or commercial.

In this section of our catalogue, we invite you to explore our range of monocrystalline photovoltaic panels, each accompanied by detailed technical data sheets, high-resolution images, and installation tipsWhether you are an industry professional, passionate about sustainable technologies, or simply looking for ways to reduce the environmental impact of your home or business, you will find the perfect solution for your needs here.

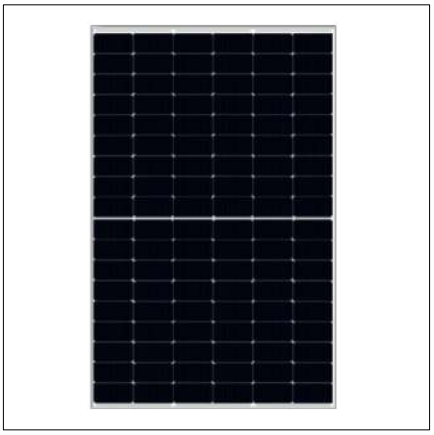
Discover how our monocrystalline photovoltaic panels can transform sunlight into clean, efficient and sustainable energy, innovation and technology directly onto the roof of your home or business.

410W P-TYPE
PANEL



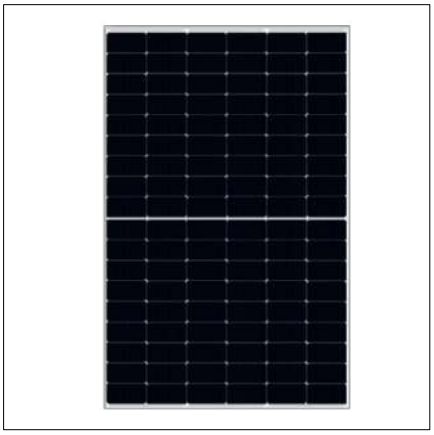
PANEL
410W P-TYPE FULL BLACK

430W N-TYPE
PANEL



PANEL
430W N-TYPE FULL BLACK

590W N-TYPE
PANEL



AU410-27V-MH

MONOCRYSTALLINE PANEL

P-Type technology

POWER
410W

CELL SIZE
182*91mm

CLASS I
OF REACTION TO FIRE

85% linear production guaranteed

30 YEARS

10BB Busbar

JUNCTION BOX

Degree of protection: IP67
Security level: Class II
Maximum system voltage: 1500 V Effectively withstands aggressive environments Fire reaction class UNI9177: Class I

FRAME

High resistance to mechanical load, up to 5400 Pa.
Anodic oxidation layer for improved resistance to chemical corrosion.

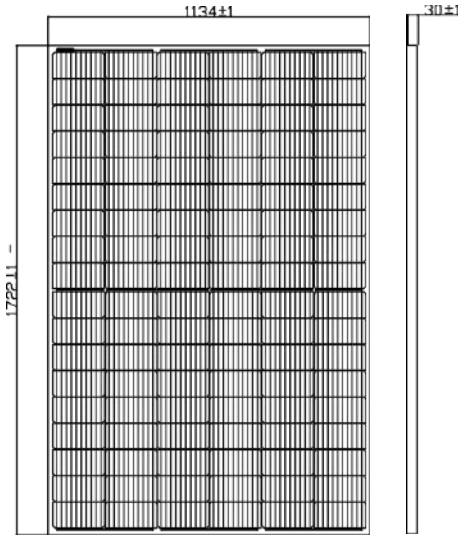
FRONT PANEL
Unit of measurement:mm

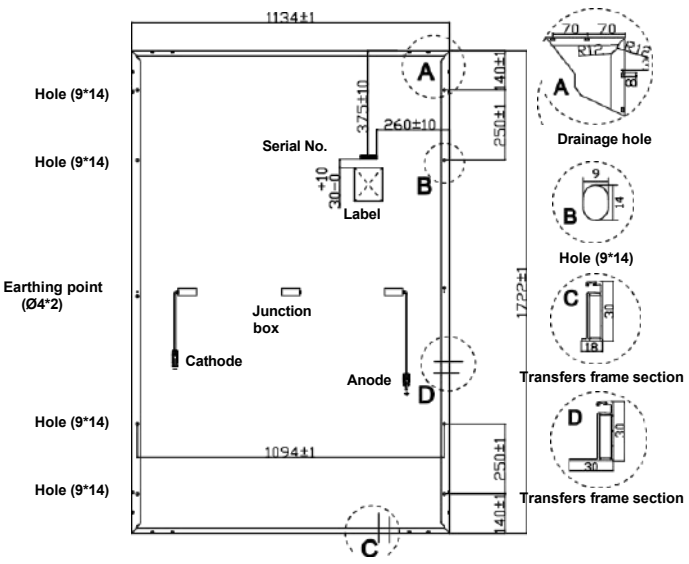
HALF-CUT TECHNOLOGY
New circuit design, lower internal current and lower leakage

AVOIDS THE HEAT SPOT
The unique circuit design significantly reduces the heat spot temperature, so that power loss is reduced and module output is increased.

LOWEST COST
Increased energy generation can reduce the cost per KWh

EXCELLENT PID RESISTANCE PERFORMANCE
PID (potential-induced degradation) resistance performance exceeded the TUV Nord standard.





ELECTRICAL DATA	AU410-27V-MH
PEAK POWER (PMAX)	410.00
VOLTAGE IN THE MPP (VMP)	31.46
CURRENT IN THE MPP (IMP)	13.04
NO-LOAD VOLTAGE (VOC)	37.45± 3%
SHORT-CIRCUIT CURRENT (ISC)	13.85± 3%
EFFICIENCY (%)	20.97

STC: radiation 1000W/m² , AM 1.5 and cell temperature of 25°C

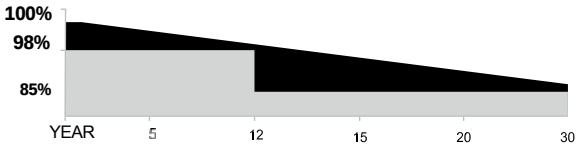
OPERATING AND SYSTEM INTEGRATION TEMPERATURES	AU410-27V-MH
MAXIMUM SYSTEM VOLTAGE (V)	1500V
MAXIMUM REVERSE CURRENT (A)	25A
TOLERANCE	0~+3W
TEMPERATURE COEFFICIENT PMAX (W/°C)	-0.350%/°C
TEMPERATURE COEFFICIENT VOC (V/°C)	-0.285%/°C
TEMPERATURE COEFFICIENT ISC (A/°C)	+0.045%/°C
NOCT NOMINAL OPERATING CELL TEMPERATURE (°C)	45±2°C
PERMISSIBLE MODULE TEMPERATURE (°C)	-40~+85°C

MECHANICAL SPECIFICATIONS	AU410-27V-MH
CELL TYPE	182*91 P Type Mono
CELL NUMBER	108(12*9)
PANEL DIMENSIONS	1722*1134*30mm
PANEL WEIGHT	21.5kg
TOP GLASS	3.2mm high transmittance, low metal content, toughened glass
FRAME	Anodised aluminium alloy
JUNCTION BOX	IP68 3 by-pass diodes
CABLE	4 mm2, 55 cm cable (including MC4 connector)
WIND LOAD/SNOW LOAD	2400Pa / 5400Pa

CERTIFICATES

·IEC61215 / · IEC61730

WARRANTY



30 YEARS

Linear production guarantee
85% power

AU410-27V-MHB

MONOCRYSTALLINE PANEL

P-Type FULL BLACK technology

POWER
410W

CELL SIZE
182*91mm

CLASS I
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30 YEARS

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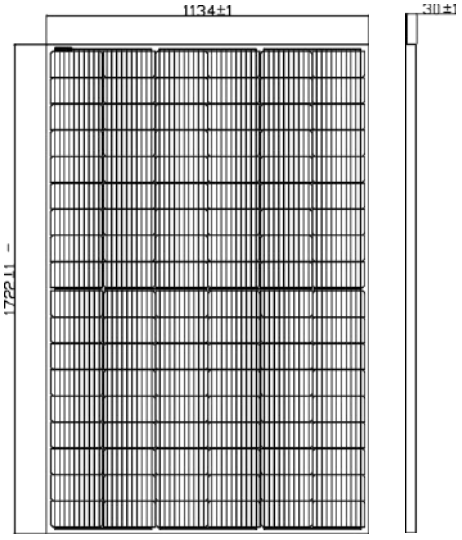

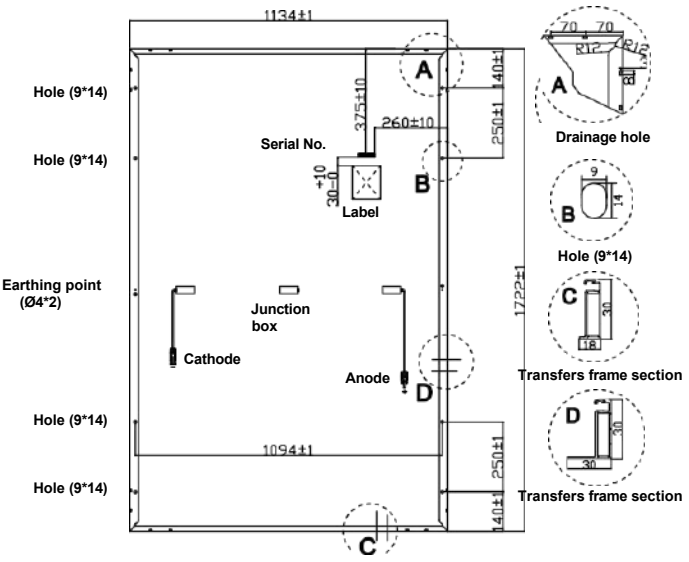

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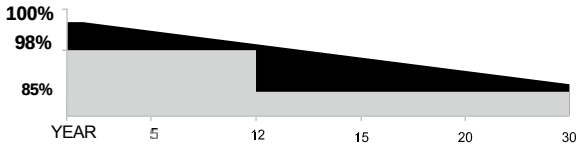
PERMISSIBLE MODULE TEMPERATURE (°C)	-40~+85°C

MECHANICAL SPECIFICATIONS	AU410-27V-MHB
CELL TYPE	182*91 P Type Mono
CELL NUMBER	108(12*9)
PANEL DIMENSIONS	1722*1134*30mm
PANEL WEIGHT	21.5kg
TOP GLASS	3.2mm high transmittance, low metal content, toughened glass
FRAME	Anodised aluminium alloy
JUNCTION BOX	IP68 3 by-pass diodes
CABLE	4 mm2, 55 cm cable (including MC4 connector)
WIND LOAD/SNOW LOAD	2400Pa / 5400Pa

CERTIFICATES

·IEC61215 / · IEC61730

WARRANTY



30 YEARS

Linear production guarantee
85% power

ARYA

PHOTOVOLTAIC PANEL

AU430-27V-MH

MONOCRYSTALLINE PANEL

N-Type technology

POWER
430W

CELL SIZE
182*91mm

CLASS I
OF REACTION TO FIRE

Linear production guarantee 87.4% power

30 YEARS

16BB Busbar

JUNCTION BOX
Degree of protection: IP67
Security level: Class II
Maximum system voltage: 1500 V Effectively withstands aggressive environments Fire reaction class UNI9177: Class I

FRAME
High resistance to mechanical load, up to 5400 Pa.
Anodic oxidation layer for improved resistance to chemical corrosion.

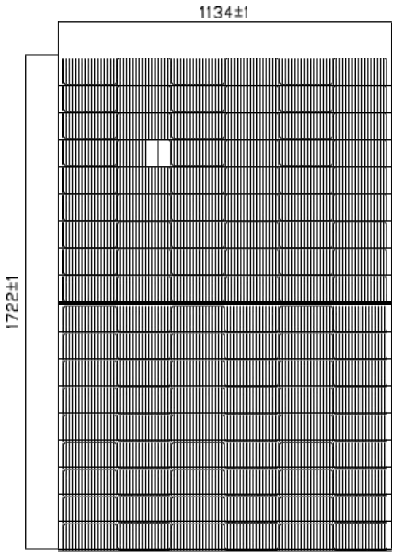
SMBB TECHNOLOGY
Increased current output and module reliability.

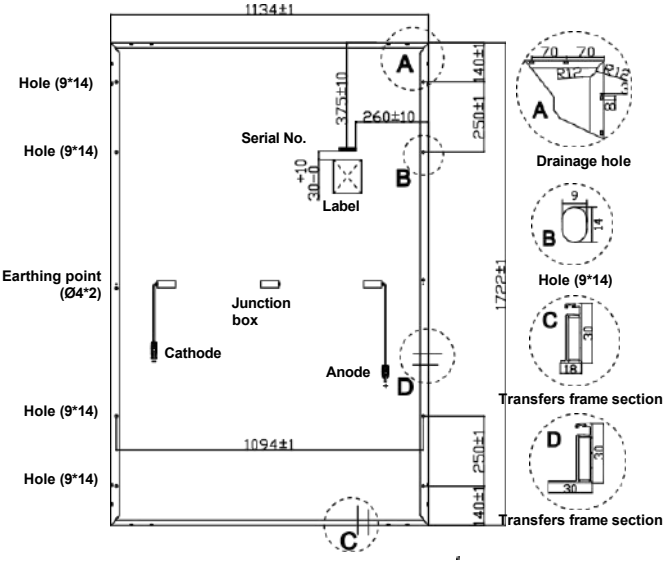
PID RESISTANCE
Excellent Anti-PID performance guarantee thanks to optimised processes, production materials and mass controls.

RESISTANCE TO EXTREME ENVIRONMENTAL CONDITIONS
High resistance salt spray and ammonia.

ENHANCED MECHANICAL LOAD
Certified to withstand: wind load (2400 Pascal) snow load (5400 Pascal)

FRONT PANEL
Unit of measurement:mm





ELECTRICAL DATA	AU430-27V-MH
PEAK POWER (PMAX)	430.00
VOLTAGE IN THE MPP (VMP)	31.88
CURRENT IN THE MPP (IMP)	13.49
NO-LOAD VOLTAGE (VOC)	38.49± 3%
SHORT-CIRCUIT CURRENT (ISC)	14.23
EFFICIENCY (%)	22.02

STC: radiation 1000W/m² , AM 1.5 and cell temperature of 25°C

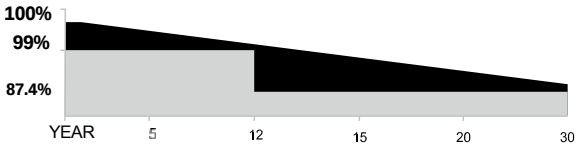
OPERATING AND SYSTEM INTEGRATION TEMPERATURES	AU430-27V-MH
MAXIMUM SYSTEM VOLTAGE (V)	1500V
MAXIMUM REVERSE CURRENT (A)	25A
TOLERANCE	0~+3W
TEMPERATURE COEFFICIENT PMAX (W/°C)	-0.300%/°C
TEMPERATURE COEFFICIENT VOC (V/°C)	-0.250%/°C
TEMPERATURE COEFFICIENT ISC (A/°C)	+0.046%/°C
NOCT NOMINAL OPERATING CELL TEMPERATURE (°C)	45±2°C
PERMISSIBLE MODULE TEMPERATURE (°C)	-40~+85°C

MECHANICAL SPECIFICATIONS	AU430-27V-MH
CELL TYPE	182*91 P Type Mono
CELL NUMBER	108(12*9)
PANEL DIMENSIONS	1722*1134*30mm
PANEL WEIGHT	21.5kg
TOP GLASS	3.2mm high transmittance, low metal content, toughened glass
FRAME	Anodised aluminium alloy
JUNCTION BOX	IP67 3 by-pass diodes
CABLE	4 mm2, 35 cm cable (including MC4 connector)
WIND LOAD/SNOW LOAD	2400Pa / 5400Pa

CERTIFICATES

·IEC61215 / · IEC61730

WARRANTY



30 YEARS

Linear production guarantee
87.4% power

ARYA

PHOTOVOLTAIC PANEL

AU430-27V-MHB

MONOCRYSTALLINE PANEL

N-Type FULL BLACK technology

POWER
430W

CELL SIZE
182*91mm

Linear production guarantee 87.4% power

30 YEARS

16BB Busbar

CLASS I
OF REACTION TO FIRE

JUNCTION BOX
Degree of protection: IP67
Security level: Class II
Maximum system voltage: 1500 V Effectively withstands aggressive environments Fire reaction class UNI9177: Class I

FRAME
High resistance to mechanical load, up to 5400 Pa.
Anodic oxidation layer for improved resistance to chemical corrosion.

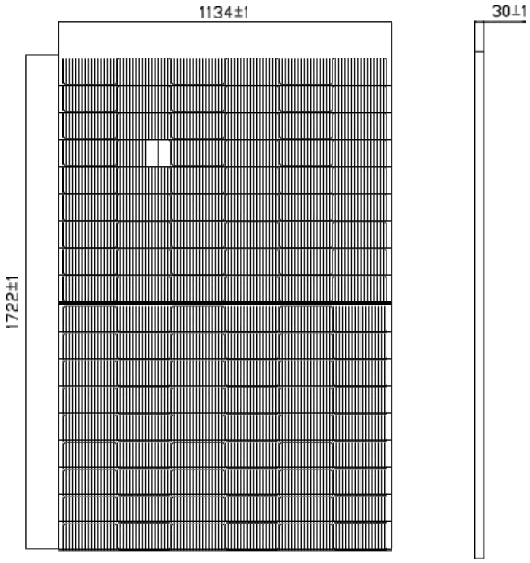
SMBB TECHNOLOGY
Increased current output and module reliability.

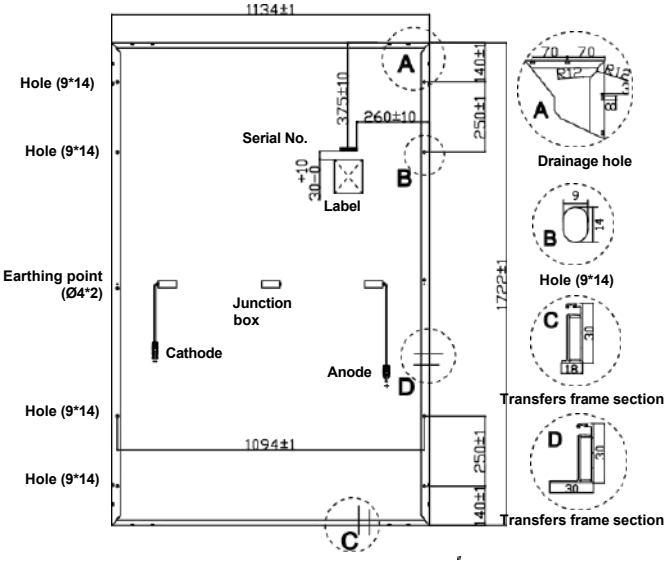
PID RESISTANCE
Excellent Anti-PID performance guarantee thanks to optimised processes, production materials and mass controls.

RESISTANCE TO EXTREME ENVIRONMENTAL CONDITIONS
High resistance salt spray and ammonia.

ENHANCED MECHANICAL LOAD
Certified to withstand: wind load (2400 Pascal) snow load (5400 Pascal)

FRONT PANEL
Unit of measurement:mm





ELECTRICAL DATA	AU430-27V-MHB
PEAK POWER (PMAX)	430.00
VOLTAGE IN THE MPP (VMP)	31.88
CURRENT IN THE MPP (IMP)	13.49
NO-LOAD VOLTAGE (VOC)	38.49± 3%
SHORT-CIRCUIT CURRENT (ISC)	14.23
EFFICIENCY (%)	22.02

STC: radiation 1000W/m² , AM 1.5 and cell temperature of 25°C

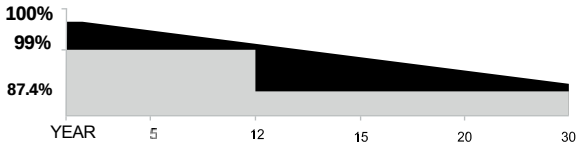
OPERATING AND SYSTEM INTEGRATION TEMPERATURES	AU430-27V-MHB
MAXIMUM SYSTEM VOLTAGE (V)	1500V
MAXIMUM REVERSE CURRENT (A)	25A
TOLERANCE	0~+3W
TEMPERATURE COEFFICIENT PMAX (W/°C)	-0.300%/°C
TEMPERATURE COEFFICIENT VOC (V/°C)	-0.250%/°C
TEMPERATURE COEFFICIENT ISC (A/°C)	+0.046%/°C
NOCT NOMINAL OPERATING CELL TEMPERATURE (°C)	45±2°C
PERMISSIBLE MODULE TEMPERATURE (°C)	-40~+85°C

MECHANICAL SPECIFICATIONS	AU430-27V-MHB
CELL TYPE	182*91 P Type Mono
CELL NUMBER	108(12*9)
PANEL DIMENSIONS	1722*1134*30mm
PANEL WEIGHT	21.5kg
TOP GLASS	3.2mm high transmittance, low metal content, toughened glass
FRAME	Anodised aluminium alloy
JUNCTION BOX	IP67 3 by-pass diodes
CABLE	4 mm2, 35 cm cable (including MC4 connector)
WIND LOAD/SNOW LOAD	2400Pa / 5400Pa

CERTIFICATES

·IEC61215 / · IEC61730

WARRANTY



30 YEARS

Linear production guarantee
87.4% power

ODA590-36V-MH

MONOCRYSTALLINE PANEL

N-Type technology

POWER
590W

CELL SIZE
182*91mm

CLASS I
OF REACTION TO FIRE

Linear production guarantee 87.4% power

30 YEARS

16BB Busbar

JUNCTION BOX
Degree of protection: IP68
Security level: Class II
Maximum system voltage: 1500 V Effectively withstands aggressive environments Fire reaction class UNI9177: Class II

FRAME
High resistance to mechanical load, up to 5400 Pa.
Anodic oxidation layer for improved resistance to chemical corrosion.

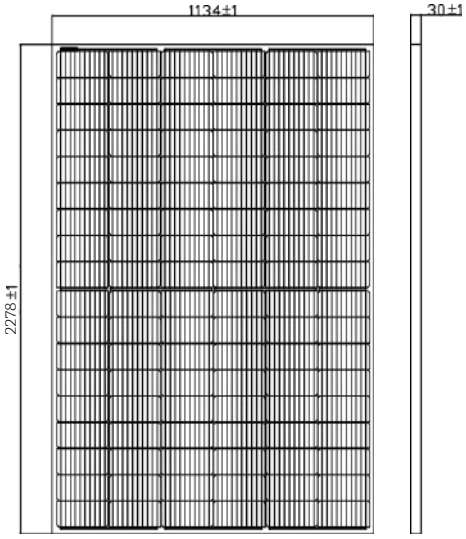
SMBB TECHNOLOGY
Increased current output and module reliability.

PID RESISTANCE
Excellent Anti-PID performance guarantee thanks to optimised processes, production materials and mass controls.

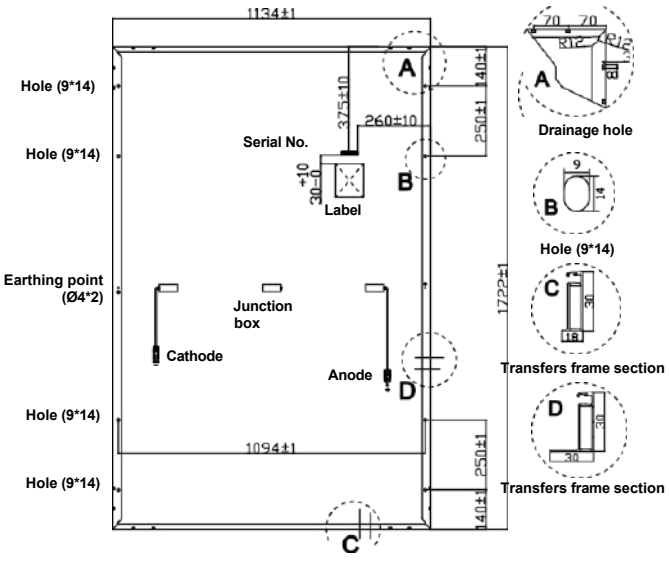
RESISTANCE TO EXTREME ENVIRONMENTAL CONDITIONS
High resistance salt spray and ammonia.

ENHANCED MECHANICAL LOAD
Certified to withstand: wind load (2400 Pascal) snow load (5400 Pascal)

FRONT PANEL
Unit of measurement:mm



BACK PANEL



ELECTRICAL DATA	ODA590-36V-MH
PEAK POWER (PMAX)	590.00
VOLTAGE IN THE MPP (VMP)	42.67
CURRENT IN THE MPP (IMP)	13.83
NO-LOAD VOLTAGE (VOC)	51.30± 3%
SHORT-CIRCUIT CURRENT (ISC)	14.63± 3%
EFFICIENCY (%)	22.83

STC: radiation 1000W/m² , AM 1.5 and cell temperature of 25°C

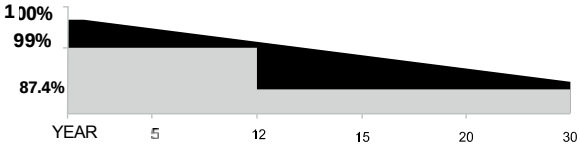
OPERATING AND SYSTEM INTEGRATION TEMPERATURES	ODA590-36V-MH
MAXIMUM SYSTEM VOLTAGE (V)	1500V
MAXIMUM REVERSE CURRENT (A)	25A
TOLERANCE	0~+3W
TEMPERATURE COEFFICIENT PMAX (W/°C)	-0.300%/°C
TEMPERATURE COEFFICIENT VOC (V/°C)	-0.260%/°C
TEMPERATURE COEFFICIENT ISC (A/°C)	+0.047%/°C
NOCT NOMINAL OPERATING CELL TEMPERATURE (°C)	45±2°C
PERMISSIBLE MODULE TEMPERATURE (°C)	-40~+85°C

MECHANICAL SPECIFICATIONS	ODA590-36V-MH
CELL TYPE	182*91 n Type Mono
CELL NUMBER	144(12*12)
PANEL DIMENSIONS	2278*1134*30mm
PANEL WEIGHT	27.40kg
TOP GLASS	3.2mm high transmittance, low metal content, toughened glass
FRAME	Anodised aluminium alloy
JUNCTION BOX	IP67/IP68 3 by-pass diodes
CABLE	4 mm2, 35 cm cable (including MC4 connector)
WIND LOAD/SNOW LOAD	2400Pa / 5400Pa

CERTIFICATES

·IEC61215 / · IEC61730

WARRANTY



30 YEARS

Linear production guarantee
85% power

OPTIMIZER

For Photovoltaic Panels

POWER
600W

FEATURES

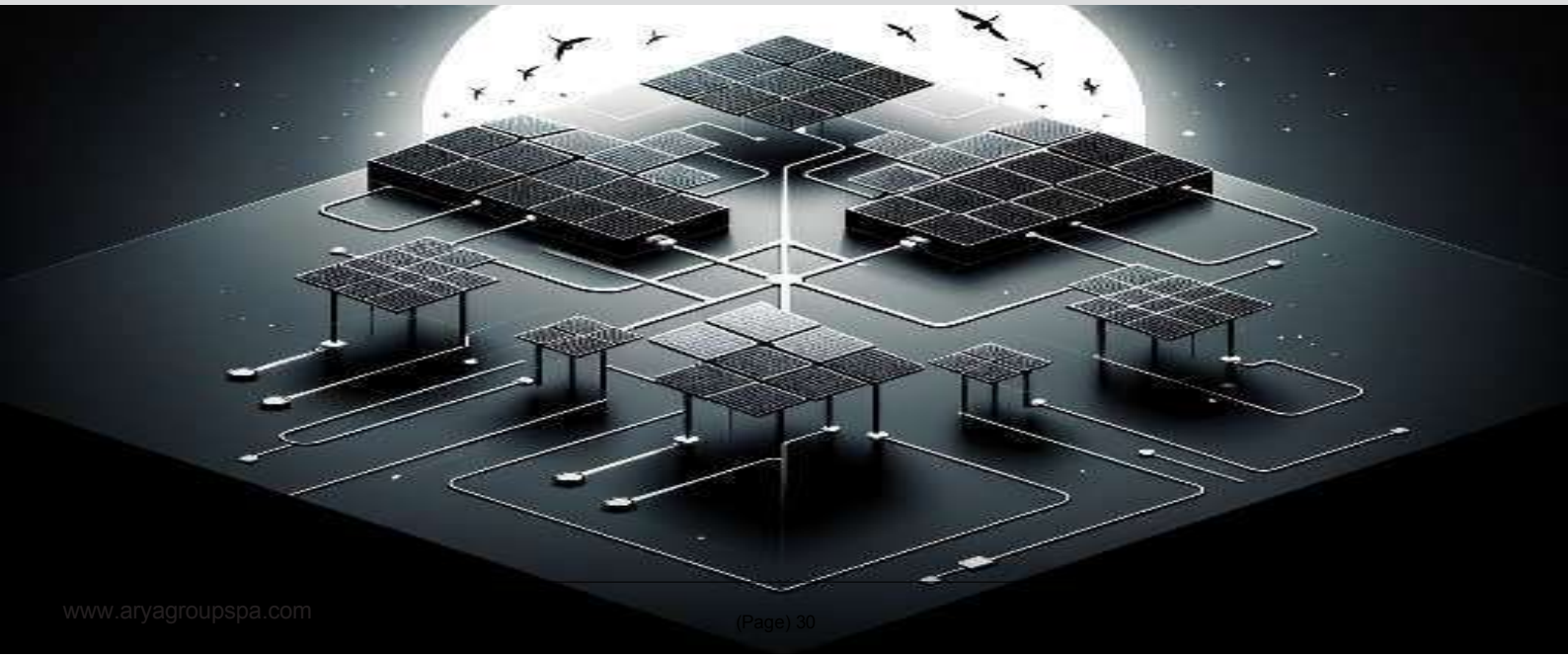
The 600W optimisers for photovoltaic panels are an advanced technological solution for improving the efficiency and energy management solar panels. These devices are designed to maximise the energy that can be extracted from each individual panel, regardless of partial shading conditions or variations in light intensity during the day.

A 600W optimiser can manage the maximum power point (MPPT) for each panel individually. This means that, instead of having a single maximum power point for entire PV array, each panel can operate at its optimum efficiency point. This is particularly useful in situations where panels are installed on surfaces with different orientations or are subject to partial shading caused by trees, buildings or other obstacles.

The 600W optimisers also help to improve the safety of the photovoltaic system.

In the event of a malfunction or failure of one of the panels, the device can automatically reduce the voltage of the affected panel, limiting the risk of short circuits or fire.
From an installation perspective, power optimisers make the photovoltaic system more flexible. They can be easily integrated with new or existing solar systems and are compatible with inverters of various makes and models. This compatibility ensures that users can choose the solution best suited to their specific needs without being tied to a single technology provider.

Finally, the use of 600W optimisers allows better monitoring and management of the PV system. Many of these devices are equipped with communication systems that send real-time data on the energy output of each panel to online portal or mobile application. This allows users to quickly identify any problems or inefficiencies, thereby optimising maintenance and increasing the overall efficiency of the system.



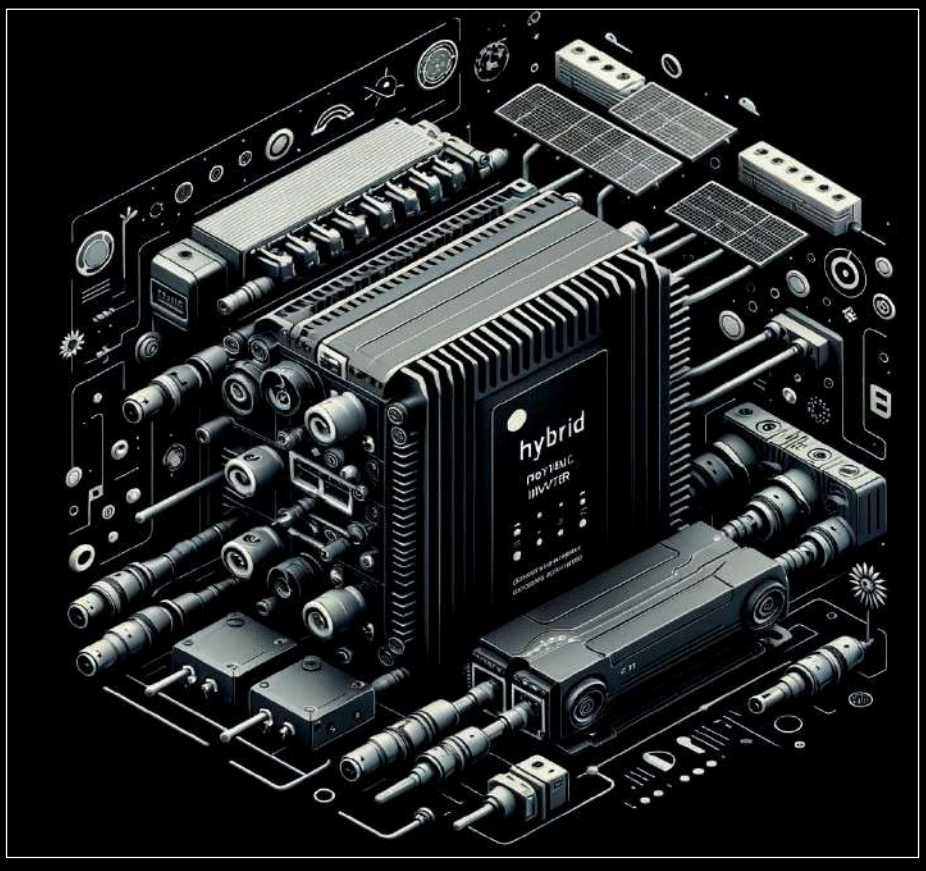
DC INPUT	SUNGO-OPT
MAX. INPUT POWER	600W
MAX VOLTAGE	60V
MPPT VOLTAGE RANGE	7~60V
MAX. CONTINUOUS INPUT CURRENT	16A
MAX. INPUT SHORT-CIRCUIT CURRENT	18A
SELF-CONSUMPTION AT NIGHT	0W

DC OUTPUT	SUNGO-OPT
NOMINAL OUTPUT VOLTAGE	42V
MAXIMUM CONTINUOUS OUTPUT CURRENT	16A
MAXIMUM OUTPUT POWER	600W
MAXIMUM SYSTEM VOLTAGE	1500V
72-CELL MODULE IN SERIAL @1500V	36pcs
72-CELL MODULE IN SERIAL @1100V	26pcs
72-CELL MODULE IN SERIAL @1000V	24pcs

EFFICIENCY	SUNGO-OPT
MAXIMUM EFFICIENCY	99.5%
POWER LOSS @ 5 A	0.9W
POWER LOSS @ 8 A	1.4W
POWER LOSS @12A	2.9W
POWER LOSS @15A	4.5W
POWER LOSS @20A	7.2W

GENERAL DATA	SUNGO-OPT
DIMENSIONS (LXPXA)	103*105.3*21.3mm
WEIGHT	0.65kg
INPUT/OUTPUT CABLE LENGTH	150/1050mm
INPUT/OUTPUT CABLE DIMENSIONS	4mm²(12AWG) / 4mm²(12AWG)
TERMINALS	MC4(compatible)
DEGREE OF PROTECTION	IP67
RELATIVE HUMIDITY	0~100%RH
OPERATING TEMPERATURE RANGE	-40~+6.5°C
COOLING	Natural

PHOTOVOLTAIC INVETER STANDARD & IBRID



OUR INVERTER

Welcome to the Inverter Section of our Catalogue

Technological developments in the field of solar energy have led to the creation of increasingly efficient and sophisticated components, which are essential for optimising the use of the energy produced by photovoltaic panels. Among these, inverters represent a crucial element, acting as a bridge between the production of solar energy and its actual use. In this section of our cataloguewe present a curated selection of the most advanced inverters on the market, including standard and hybrid models, each designed to meet different needs and contexts of use.

Standard Inverters: These devices are responsible for converting solar energy from direct current (DC) to alternating current (AC), making it compatible with the domestic electrical grid and the devices we use every day. Their reliability and efficiency make them an ideal choice for those seeking a simple and effective solution for residential or commercial photovoltaic installation.

Hybrid Inverters: They represent the frontier of innovation in the inverter sector.

In addition to performing all the functions of a standard inverter, hybrids offer the possibility of connecting to storage systems (such as batteries) to store excess energy.
This allows for even more efficient energy management, guaranteeing access to solar energy even when the panels are not producing, such as during the night or on particularly cloudy days. Hybrid inverters are therefore the optimal choice for those who want to maximise energy independence and further reduce their energy bills.

In our catalogue, you will find a wide range of inverters, both standard and hybrid, each accompanied by a detailed data sheet explaining its features, advantages and technical specifications. Our mission to help you choose the inverter best suited to your needs, providing you with all the necessary information for an informed decision.

Discover our selection and get closer to the future solar energy with the inverters that are setting the standard for tomorrow.

STANDARD INVERTER
SINGLE-PHASE 1/3/4/6KW

STANDARD INVERTER
THREE-PHASE 10/15/20/30/40/50/60KW

HYBRID INVERTER
AF SINGLE-PHASE
3/4.6/6KW

HYBRID INVERTER
ARM 3/5/6KW

HYBRID INVERTER
AF TrIFASE
10/15/20KW

HNS1000TL-1 / HNS3000TL / HNS4000TL / HNS6000TL

INVERTER

SINGLE-PHASE

Possibility of grid connection (CEI-021)

WIFI INTEGRATED

10 YEAS gArAnce

Storage-less photovoltaic inverters are a key component in solar installations dedicated exclusively to conversion and immediate feeding of the energy produced into the grid. These devices are designed to transform the direct current (DC) generated by solar panels into alternating current (AC), compatible with domestic electrical infrastructure and the energy distribution grid.

FEATURES

- MPPT efficiency> 99.9%.
- 2 MPPT.
- Active/reactive power compensation and
- power factor adjustment.
- Cooling with natural air circulation
- Quick and easy installation.
- High quality output power and low THDI.

ANTI-FLOW
Output current blocking function.

MAX. INPUT C/C
Maximum panel power 1.5 of the inverter power

PROTECTION
Smart Protections

SMART
Intelligent I-V curve scanning

CONFIGURATION
Simple via WIFI

MODBUS

GENERAL DATA	HNS1000TL-1	HNS3000TL	HNS4000TL	HNS6000TL
DIMENSIONS (H X W X D, MM)	280x260x116	370x350x142		
WEIGHT (KG)	6	11		
DEGREE OF PROTECTION	IP65	IP65		
HOUSING MATERIAL	Aluminium	Aluminium		
TEMPERATURE RANGE ENVIRONMENT (°C)	-25 a 60	-25 a 60		
HUMIDITY RANGE	0-100%	0-100%		
TOPOLOGY	Without transformer	Without transformer		
COMMUNICATION INTERFACE	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet		
COOLING CONCEPT	Conventional	Conventional		
NOISE EMISSION (N DB)	<21	<28		
NIGHT-TIME ENERGY CONSUMPTION (W)	<0.2	<1		
MAXIMUM OPERATING ALTITUDE (M)	4000	4000		

FV INPUT DATA	HNS1000TL-1	HNS3000TL	HNS4000TL	HNS6000TL
MAX. DC POWER (W)	1500	4500	6000	8400
MAX. DC VOLTAGE (V)	600	600	600	600
INTER. VOLTAGE MPPT (V)	50-500	70-550	70-550	70-550
INTER. OF VOLTAGE AT FULL POWER (V)	70-500	110-550	145-550	220-550
NOM. INPUT VOLTAGE (V)	360	360	360	360
STARTING VOLTAGE (V)	50	70	70	70
MAX. INPUT CURRENT (A)	14	14 x 2	14 x 2	14 x 2
MAX. SHORT CURRENT (A)	18	18 x 2	18 x 2	18 x 2
N. MPPT / NO. OF FV STRINGS	1/1	2/2	2/ 2	2/ 2
INPUT CONNECTOR TYPE	MC4	MC4	MC4	MC4
AC OUTPUT DATA	HNS1000TL-1	HNS3000TL	HNS4000TL	HNS6000TL
MAX. OUTPUT POWER (W)	1100	3300	4400	6600
NOMINAL OUTPUT POWER (W)	1000	3000	4000	6000
MAX. OUTPUT CURRENT (A)	6	15	20	28.7
NOMINAL OUTPUT VOLTAGE (V)	L/N/PE, 220Vac, 230Vac, 240Vac			
MAINS VOLTAGE RANGE	180Vac-276Vac (according to local standard)			
NOMINAL OUTPUT FREQUENCY (HZ)	50/60			
NETWORK FREQUENCY	45-55Hz/54-66Hz (according to local standard)			
OUTPUT POWER FACTOR	1 default (adjustable from 0.8 early to 0.8 late)			
THD OUTPUT CURRENT	<3%			
EFFICIENCY	HNS1000TL-1	HNS3000TL	HNS4000TL	HNS6000TL
MAXIMUM EFFICIENCY	97.50%	98.20%	98.20%	98.20%
EURO EFFICIENCY	96.60%	97.80%	97.85%	97.92%
AC OUTPUT DATA	HNS1000TL-1	HNS3000TL	HNS4000TL	HNS6000TL
PROTECTION FROM POLARITY REVERSAL FV	YES			
DETECTIVE OF FV INSULATION RESISTANCE	YES			
AC SHORT-CIRCUIT PROTECTION	YES			
AC OVERCURRENT PROTECTION	YES			
AC OVERVOLTAGE PROTECTION	YES			
ANTI-ISLANDING PROTECTION	YES			
RESIDUAL CURRENT DETECTION	YES			
OVERTEMPERATURE PROTECTION	YES			
INTEGRATED DC SWITCH	YES			
OVERVOLTAGE PROTECTION	Integrated (Type III)			
INTELLIGENT CURVE SCAN IV	YES			

BNT010KTL / BNT015KTL / BNT020KTL / BNT030KTL

INVERTER

TRIFASE

Possibility of grid connection (CEI-021)

WIFI INTEGRATED

10 YEARS gArAnce

98.4% max. efficiency.
Parallel operation capability with up to 10 units Easy control via LED display and app
Easy Wi-Fi configuration via App
Super wide battery voltage range from 135-750 V. IP65 degree of protection.
Compact and elegant design with integrated die-casting technology.
Long-term efficient operation with advanced heat dissipation design.
Intelligent energy management with integrated BMS.
Up to 110% unbalanced load. AC output overload up to 125%.

ANTI-FLOW
Output current blocking function.

MAX. INPUT C/C
Maximum panel power 1.5 of the inverter power

PROTECTION
Smart Protections

SMART
Intelligent I-V curve scanning

CONFIGURATION
Simple via WIFI

MODBUS

GENERAL DATA	BNT010KTL	BNT015KTL	BNT020KTL	BNT030KTL
DIMENSIONS (H X W X D, MM)	510x370x192	510x370x192	535x370x192	712x427x232
WEIGHT (KG)	15	17	19	42
DEGREE OF PROTECTION	IP65	IP65	IP65	IP65
HOUSING MATERIAL	Aluminium	Aluminium	Aluminium	Aluminium
TEMPERATURE RANGE ENVIRONMENT (°C)	-25 a 60	-25 a 60	-25 a 60	-25 a 60
HUMIDITY RANGE	0-100%	0-100%	0-100%	0-100%
TOPOLOGY	Without transformer	Without transformer	Without transformer	Without transformer
COMMUNICATION INTERFACE	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet
COOLING CONCEPT	Conventional	Conventional	Conventional	Conventional
NOISE EMISSION (N DB)	<30	<40	<40	<51
NIGHT-TIME ENERGY CONSUMPTION (W)	<1	<1	<1	<1
MAXIMUM OPERATIONAL ALTITUDE (M)	4000	4000	4000	4000

FV INPUT DATA	BNT010KTL	BNT015KTL	BNT020KTL	BNT030KTL
MAX. DC POWER (W)	15000	22500	22500	45000
MAX. DC VOLTAGE (V)	1100	1100	1100	1100
INTER. VOLTAGE MPPT (V)	150-1000	150-1000	150-1000	200-1000
INTER. OF VOLTAGE AT FULL POWER (V)	500-850	500-850	500-850	500-850
NOM. INPUT VOLTAGE (V)	620	620	620	620
STARTING VOLTAGE (V)	150	150	150	200
MAX. INPUT CURRENT (A)	15 x 2	20 x 2	32 x 2	38 x 3
MAX. SHORT CURRENT (A)	25 x 2	30 x 2	48 x 2	48 x 3
N. MPPT / NO. OF FV STRINGS	2/2	2/2	2/4	2/5
INPUT CONNECTOR TYPE	MC4	MC4	MC4	MC4
AC OUTPUT DATA	BNT010KTL	BNT015KTL	BNT020KTL	BNT030KTL
MAX. OUTPUT POWER (W)	11000	16500	22000	33000
NOMINAL OUTPUT POWER (W)	10000	15000	20000	30000
MAX. OUTPUT CURRENT (A)	17	27	32	48
NOMINAL OUTPUT VOLTAGE (V)	3P+N+PE / 3P + PE 230/400			
MAINS VOLTAGE RANGE	260Vac-519Vac (according to local standard)			
NOMINAL OUTPUT FREQUENCY (HZ)	50/60			
NETWORK FREQUENCY	45-55Hz/54-66Hz (according to local standard)			
OUTPUT POWER FACTOR	1 default (adjustable from 0.8 early to 0.8 late)			
THD OUTPUT CURRENT	<3%			
EFFICIENCY	BNT010KTL	BNT015KTL	BNT020KTL	BNT030KTL
MAXIMUM EFFICIENCY	98.70%	98.70%	98.75%	98.50%
EURO EFFICIENCY	98.23%	98.23%	99.35%	99.10%
AC OUTPUT DATA	BNT010KTL	BNT015KTL	BNT020KTL	BNT030KTL
PROTECTION FROM POLARITY REVERSAL FV	YES			
DETECTIVE OF FV INSULATION RESISTANCE	YES			
AC SHORT-CIRCUIT PROTECTION	YES			
AC OVERCURRENT PROTECTION	YES			
AC OVERVOLTAGE PROTECTION	YES			
ANTI-ISLANDING PROTECTION	YES			
RESIDUAL CURRENT DETECTION	YES			
OVERTEMPERATURE PROTECTION	YES			
INTEGRATED DC SWITCH	YES			
OVERVOLTAGE PROTECTION	Integrated (Type III)			
INTELLIGENT CURVE SCAN IV	YES			

BNT040KTL / BNT050KTL / BNT060KTL

INVERTER

TrIFASE

Possibility of grid connection (CEI-021)

WIFI INTEGRATED

10 YEARS gArAnce

Storage-less photovoltaic inverters are a key component in solar installations dedicated exclusively to conversion and immediate feeding of the energy produced into the grid. These devices are designed to transform the direct current (DC) generated by solar panels into alternating current (AC), compatible with domestic electrical infrastructure and the energy distribution grid.

FEATURES

- Wi-Fi
- Compact design
- Multiple intelligent protections
- Compatible with double-sided modules
- String-level monitoring

ANTI-FLOW
Output current blocking function.

MAX. INPUT C/C
Maximum panel power 1.5 of the inverter power

PROTECTION
Smart Protections

SMART
Intelligent I-V curve scanning

CONFIGURATION
Simple via WIFI

MODBUS

GENERAL DATA	BNT040KTL	BNT050KTL	BNT060KTL
DIMENSIONS (H X W X D, MM)	712x427x232	712x427x232	712x427x232
WEIGHT (KG)	43	45	45
DEGREE OF PROTECTION	IP65	IP65	IP65
HOUSING MATERIAL	Aluminium	Aluminium	Aluminium
TEMPERATURE RANGE ENVIRONMENT (°C)	-25 a 60	-25 a 60	-25 a 60
HUMIDITY RANGE	0-100%	0-100%	0-100%
TOPOLOGY	Without transformer	Without transformer	Without transformer
COMMUNICATION INTERFACE	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet	RS485/WiFi/Ethernet
COOLING CONCEPT	Conventional	Conventional	Conventional
NOISE EMISSION (N DB)	<51	<55	<55
NIGHT-TIME ENERGY CONSUMPTION (W)	<1	<1	<1
MAXIMUM OPERATING ALTITUDE (M)	4000	4000	4000

FV INPUT DATA	BNT040KTL	BNT050KTL	BNT060KTL
MAX. DC POWER (W)	60000	75000	90000
MAX. DC VOLTAGE (V)	1100	1100	1100
INTER. VOLTAGE MPPT (V)	200-1000	200-1000	200-1000
INTER. OF VOLTAGE AT FULL POWER (V)	500-850	500-850	500-850
NOM. INPUT VOLTAGE (V)	620	620	620
STARTING VOLTAGE (V)	200	200	200
MAX. INPUT CURRENT (A)	38 x 3	40 x 3	38 x 4
MAX. SHORT CURRENT (A)	48 x 3	48 x 3	48 x 4
N. MPPT / NO. OF FV STRINGS	3/6	3/7	4/8
INPUT CONNECTOR TYPE	MC4	MC4	MC4
AC OUTPUT DATA	BNT040KTL	BNT050KTL	BNT060KTL
MAX. OUTPUT POWER (W)	44000	55000	66000
NOMINAL OUTPUT POWER (W)	40000	50000	60000
MAX. OUTPUT CURRENT (A)	65	80	96
NOMINAL OUTPUT VOLTAGE (V)	3P+N+PE / 3P + PE 230/400		
MAINS VOLTAGE RANGE	260Vac-519Vac (according to local standard)		
NOMINAL OUTPUT FREQUENCY (HZ)	50/60		
NETWORK FREQUENCY	45-55Hz/54-66Hz (according to local standard)		
OUTPUT POWER FACTOR	1 default (adjustable from 0.8 early to 0.8 late)		
THD OUTPUT CURRENT	<3%		
EFFICIENCY	BNT040KTL	BNT050KTL	BNT060KTL
MAXIMUM EFFICIENCY	98.65%	98.80%	99.00%
EURO EFFICIENCY	98.25%	98.45%	98.50%
AC OUTPUT DATA	BNT040KTL	BNT050KTL	BNT060KTL
PROTECTION FROM POLARITY REVERSAL FV	YES		
DETECTIVE OF FV INSULATION RESISTANCE	YES		
AC SHORT-CIRCUIT PROTECTION	YES		
AC OVERCURRENT PROTECTION	YES		
AC OVERVOLTAGE PROTECTION	YES		
ANTI-ISLANDING PROTECTION	YES		
RESIDUAL CURRENT DETECTION	YES		
OVERTEMPERATURE PROTECTION	YES		
INTEGRATED DC SWITCH	YES		
OVERVOLTAGE PROTECTION	Integrated (Type III)		
INTELLIGENT CURVE SCAN IV	YES		

AF3K-SL / AF4.6K-SL / AF6K-SL

HYBRID INVERTER

SINGLE-PHASE

Possibility of grid connection (CEI-021)

Possibility of connection to Storage Batteries

ES-BOX12 / ES-BOX12 PLUS

ANTI-FLOW
Output current blocking function.

MAX. INPUT C/C
Maximum panel power 1.5 of the inverter power

MPPT
2 Channels

STRINGS
4 Strings

UPS FUNCTION
Exchange time <10ms

PARALLEL
Max 6 Inverters

GENERAL DATA	AF3K-SL	AF4.6K-SL	AF6K-SL
DIMENSIONS (L X W X H, MM)	513x370x192	513x370x192	513x370x192
WEIGHT (KG)	17	17	17
TOPOLOGY	Without transformer	Without transformer	Without transformer
COOLING	Intelligent fan	Intelligent fan	Intelligent fan
RELATIVELY HUMIDITY	0-100%	0-100%	0-100%
INTERV. OPERATING TEMPERATURE (°C)	-25 to 60°C	-25 to 60°C	-25 to 60°C
OPERATIONAL ALTITUDE (M)	<4000	<4000	<4000
NOISE EMISSION (DB)	<25	<25	<25
STANDBY CONSUMPTION (W)	<10	<10	<10
MOUNTING	Wall bracket	Wall bracket	Wall bracket
COMMUNICATION WITH RSD	Solar Specification	Solar Specification	Solar Specification
COMMUNICATION INTERFACES	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G
EFFICIENCY	**AF3K-SL**	**AF4.6K-SL**	**AF6K-SL**
CEC EFFICIENCY (%)	97.0	97.0	97.0
MAXIMUM. EFFICIENCY (%)	97.6	97.6	97.6
PV A BAT. EFFICIENCY (%)	98.1	98.1	98.1
EFFICIENCY BETWEEN BATTERY AND AC (%)	96.8	96.8	96.8

FV INPUT DATA	AF3K-SL	AF4.6K-SL	AF6K-SL
MAX. INPUT POWER (KW)	4.5	6.9	9.0
MAX. FV VOLTAGE (V)	550	550	550
MPPT RANGE (V)	80-500	80-500	80-500
FULL MPPT INTERVAL (V)	90-500	130-500	170-500
NORMAL VOLTAGE (V)	360	360	360
STARTING VOLTAGE (V)	100	100	100
MAX. INPUT CURRENT (A)	18.5 x 2	18.5 x 2	18.5 x 2
MAX. SHORT CURRENT (A)	26 x 2	26 x 2	26 x 2
N. OF MPP TRACKERS/N. OF PV STRINGS	2 / 2	2 / 2	2 / 2
BATTERY CONNECTION	AF3K-SL	AF4.6K-SL	AF6K-SL
MAXCHARGING/DISCHARGING POWER (KW)	3.0	4.6	4.8
MAX. CHARGE/DISCHARGE CURRENT (A)	80	80	80
NORMAL BATTERY VOLTAGE (V)	51.2	51.2	51.2
INTERV. BATTERY VOLTAGE (V)	40-60	40-60	40-60
TYPE OF BATTERY	Lithium/lead ions etc.	Lithium/lead ions etc.	Lithium/lead ions etc.
AC NETWORK	AF3K-SL	AF4.6K-SL	AF6K-SL
MAXIMUM CONTINUOUS CURRENT (A)	14.0	22.0	28.0
MAXIMUM CONTINUOUS POWER (KVA)	3.0	4.6	6.0
RATED MAINS CURRENT (A)	13.7 / 13.1	21.0 / 20.0	27.3 / 26.1
NOMINAL MAINS VOLTAGE (V)	198 to 242 @ 220 / 207 to 253 @ 230		
NOMINAL MAINS FREQUENCY (HZ)	50/60		
POWER FACTOR	0.999 (Adjustable from 0.8 overexcited to 0.8 underexcited)		
CURRENT THD (%)	<3		
AC LOAD OUTPUT	AF3K-SL	AF4.6K-SL	AF6K-SL
MAXIMUM CONTINUOUS CURRENT (A)	14.0	22.0	28.0
MAXIMUM CONTINUOUS POWER (KVA)	3.0	4.6	6.0
MAXIMUM PEAK CURRENT (A) (10 MIN)	20.5 / 19.6	31.4 / 30	41.0 / 39.2
MAXIMUM PEAK POWER (KVA) (10 MIN)	4.5	6.9	9.0
RATED AC CURRENT (A)	13.7 / 13.1	21.0 / 20.0	27.3 / 26.1
NOMINAL AC VOLTAGE L-N (V)	220 / 230	220 / 230	220 / 230
NOMINAL AC FREQUENCY (HZ)	50 / 60	50 / 60	50 / 60
SWITCHING TIME (S)	Seamless	Seamless	Seamless
VOLTAGE THD (%)	<3	<3	<3

PROTECTION

- Reverse polarity protection PV
- Overcurrent/voltage protection
- Anti-islanding protection
- AC short-circuit protection
- Residual current detection
- Ground Fault Monitoring
- Insulation resistor detection
- Photovoltaic arc detection
- Protection level IP 65

ARM-3K-30 / ARM-5K-30 / ARM-6K-30

HYBRID INVERTER

SINGLE-PHASE HIGH VOLTAGE

Possibility of grid connection (CEI-021)

Possibility of connection to Storage Batteries

HV-BOX3-384

WIFI INTEGRATED

5ANNI gArAnce

97.6%	15A	30A	10ms
Maximum efficiency of conversion	Maximum PV input current	Charging and discharging current	UPS uninterruptible power supply

Domestic | Single-phase | High voltage

HIGH PERFORMANCE
97.6 per cent maximum conversion efficiency
Support maximum PV input current of 15A , 1-2 MPP trackers
Maximum battery charging and discharging current 30A

LOADING & BACK-UP
Supports up to 110% unbalanced three-phase output
Supports 125% overload for up to 60 seconds off-grid
160% DC oversizing

EASY INSTALLATION AND MAINTENANCE
Plug & Play terminals for easy wiring Power and alarm indicator
Dual-channel data visualisation with OLED display and App
Supports configuration of Wi-Fi connection via APP

FLEXIBLE DESIGN
Wide battery voltage range 135-750V IP65 for indoor and outdoor installation Compact size and elegant appearance

GENERAL DATA	ARM-3K-30	ARM-5K-30	ARM-6K-30
OVERVOLTAGE CATEGORY	CC:I CA:III	CC:I CA:III	CC:I CA:III
DIMENSIONS (WxHxD)mm	534x418x210	534x418x210	534x418x210
WEIGHT Kg	27.0	27.0	27.0
DEGREE OF PROTECTION	IP65	IP65	IP65
NIGHT ENERGY CONSUMPTION W	<15	<15	<15
TYPE	Without transformer	Without transformer	Without transformer
OPERATING TEMPERATURE RANGE °C	-30 to 60°C	-30 to 60°C	-30 to 60°C
RELATIVE HUMIDITY %	0~100	0~100	0~100
OPERATING ALTITUDE m	3000 (declass.@>3000m)	3000 (declass.@>3000m)	3000 (declass.@>3000m)
COOLING	Natural convection	Natural convection	Natural convection
NOISE LEVELS dB	<25	<25	<25
VISUALISATION	OLED & LED	OLED & LED	OLED & LED
COMMUNICATION	RS485,CAN,Wi-Fi	RS485,CAN,Wi-Fi	RS485,CAN,Wi-Fi
EFFICIENCY	**ARM-3K-30**	**ARM-5K-30**	**ARM-6K-30**
MAXIMUM. EFFICIENCY (%)	97.6	97.6	97.6
EUROPEAN WEIGHTED EFFICIENCY (%)	97.0	97.0	97.0

FV INPUT DATA	ARM-3K-30	ARM-5K-30	ARM-6K-30
MAXIMUM PV POWER INPUT [kW].	4.80	8.00	9.60
INITIAL VOLTAGE [V]	80	80	80
MAXIMUM INPUT VOLTAGE* [V]	600	600	600
NOMINAL INPUT VOLTAGE [V]	360	360	360
VOLTAGE RANGE MPP* [V].	100-550	100-550	100-550
NO. OF MPP TRACKERS	1	2	2
NO. OF DC INPUTS FOR MPPT	1	1/1	1/1
MAXIMUM INPUT CURRENT [A]	15	15/15	15/15
MAX. SHORT-CIRCUIT CURRENT	20	20/20	20/20
BATTERY CONNECTION	ARM-3K-30	ARM-5K-30	ARM-6K-30
TYPE OF BATTERY	Lithuim-ion(with BMS)	Lithuim-ion(with BMS)	Lithuim-ion(with BMS)
VOLTAGE RANGE [V]	85-450	85-450	85-450
MAX. CHARGE/DISCHARGE CURRENT [A]	30/30	30/30	30/30
EXIT	ARM-3K-30	ARM-5K-30	ARM-6K-30
NOMINAL OUTPUT POWER [KW]	3.00	5.003)	6.00
MAX. APPARENT OUTPUT POWER [KVA].	3.30	5.504)	6.60
MAX. APPARENT INPUT POWER** [KVA].	6.00	10.00	10.00
MAX. BATTERY CHARGING POWER [KW].	3.00	5.00	6.00
NOMINAL OUTPUT VOLTAGE	L/N/PE; 220/230/240V	L/N/PE; 220/230/240V	L/N/PE; 220/230/240V
NOMINAL AC MAINS FREQUENCY [HZ]	50/60	50/60	50/60
MAXIMUM OUTPUT CURRENT [A]	15.00	25.005)	28.70
POWER FACTOR	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging
MAX. TOTAL HARMONIC DISTORTION	<3% @Output NOM power	<3% @Output NOM power	<3% @Output NOM power
DCI	<0.5%In	<0.5%In	<0.5%In
BACKUP	ARM-3K-30	ARM-5K-30	ARM-6K-30
NOMINAL OUTPUT POWER [KW]	3.00	5.00	6.00
MAX. APPARENT OUTPUT POWER [KVA]	3.30	5.50	6.60
MAXIMUM OUTPUT CURRENT [A]	15.00	25.00	28.70
BACKUP MOD. ACTIVATION TIME	<10ms	<10ms	<10ms
NOMINAL OUTPUT VOLTAGE	L/N/PE; 220/230/240V	L/N/PE; 220/230/240V	L/N/PE; 220/230/240V
NOMINAL OUTPUT FREQUENCY [HZ]	50/60	50/60	50/60
HARMONIC VOLTAGE DISTORTION	<3% @Linear load	<3% @Linear load	<3% @Linear load

PROTECTION

- DC reverse polarity protection
- Reverse battery input connection protection
- Protection insulation resistance
- Transient protection
- Overheating protection
- Residual current protection
- Anti-islanding protection
- AC overvoltage protection
- Overload protection

AF10K-SL / AF15K-SL / AF20K-SL

HYBRID INVERTER

THREE-PHASE

Possibility of grid connection (CEI-021)

Possibility of connection to Storage Battery

HV-BOX3-384

WIFI INTEGRATED

5ANNI gArAnce

98.4% max. efficiency.
Parallel operation capability with up to 10 units
Easy control via LED display and app Easy Wi-Fi configuration via App
Super wide battery voltage range from 135-750 V.
IP65 degree of protection.
Compact and elegant design with integrated die-casting technology.
Long-term efficient operation with advanced design of heat dissipation.
Intelligent energy management with integrated BMS. Up to 110% unbalanced load.
AC output overload up to 125%.

GENERAL DATA	AF10K-SL	AF15K-SL	AF20K-SL
DIMENSIONS (L X W X H, MM)	588x426x250	588x426x250	588x426x250
WEIGHT (KG)	22	28	28
TOPOLOGY	Without transformer	Without transformer	Without transformer
COOLING	Intelligent fan	Intelligent fan	Intelligent fan
RELATIVELY HUMIDITY	0-100%	0-100%	0-100%
INTERV. OPERATING TEMPERATURE (°C)	-25 to 60°C	-25 to 60°C	-25 to 60°C
OPERATIONAL ALTITUDE (M)	<4000	<4000	<4000
NOISE EMISSION (DB)	<30	<40	<40
STANDBY CONSUMPTION (W)	<5	<5	<5
COMMUNICATION INTERFACES	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G	LCD,LED,RS485,CAN,Wi-Fi,GPRS,4G
EFFICIENCY	AF10K-SL	AF15K-SL	AF20K-SL
EUROPEAN EFFICIENCY	97.5%	97.5%	97.8%
MAXIMUM. EFFICIENCY	98.2%	98.3%	98.3%
BATTERY CHARGING/DISCHARGING EFFICIENCY	98.0%	98.0%	98.0%

FV INPUT DATA	AF10K-SL	AF15K-SL	AF20K-SL
MAX. INPUT POWER DC (KW)	15	22.5	30
MAX. FV VOLTAGE (V)	1000	1000	1000
NOMINAL DC INPUT VOLTAGE (V)	620	620	620
INTERV. INPUT VOLTAGE DC (V)	150-1000	150-1000	150-1000
INTERV. VOLTAGE MPPT (V)	150-850	150-850	150-850
INTERV. FULL MPPT (V)	500-850	500-850	500-850
STARTING VOLTAGE (V)	160	160	160
MAX. DC INPUT CURRENT (A)	20x2	20x2	32x2
MAXIMUM. SHORT CURRENT (A)	30x2	30x4	48x2
N. OF TRACKERS/STRING MPPT	2/2	2/3	2/4
BATTERY CONNECTION	AF10K-SL	AF15K-SL	AF20K-SL
NOMINAL BATTERY VOLTAGE (V)	400	500	500
INTERV. BATTERY VOLTAGE (V)	150-800	150-800	150-800
MAX. CHARGE/DISCHARGE CURRENT (A)	30	50	50
MAXCHARGING/DISCHARGING POWER (W)	10K	15K	20K
CHARGING CURVE	3 steps	3 steps	3 steps
COMPATIBLE BATTERY TYPE	Lithium/lead ions etc.	Lithium/lead ions etc.	Lithium/lead ions etc.
AC NETWORK	AF10K-SL	AF15K-SL	AF20K-SL
NOMINAL AC OUTPUT POWER (VA)	10000	15000	20000
MAX. INPUT POWER AC	15000	22500	30000
MAX. AC OUTPUT CURRENT (A)	17	27	32
NOMINAL AC VOLTAGE (V)	230/400	230/400	230/400
NOMINAL AC FREQUENCY (HZ)	50/60	50/60	50/60
POWER FACTOR	1 (-0.8-0.8)	1 (-0.8-0.8)	1 (-0.8-0.8)
CURRENT THD (%)	<3%	<3%	<3%
AC LOAD OUTPUT	AF10K-SL	AF15K-SL	AF20K-SL
NOMINAL OUTPUT POWER (VA)	10000	15000	20000
NOMINAL OUTPUT VOLTAGE (V)	230/400	230/400	230/400
NOMINAL OUTPUT FREQUENCY (HZ)	50/60	50/60	50/60
RATED OUTPUT CURRENT (A)	14.5	21.8	29
PEAK OUTPUT POWER	11000VA, 60s	16500VA, 60s	22000VA, 60s
THDV (WITH LINEAR LOAD)	<3%	<3%	<3%
SWITCHING TIME (MS)	<10	<10	<10

PROTECTION

- Reverse polarity protection
- Overcurrent/voltage protection
- Anti-island protection
- AC short-circuit protection
- Leakage current detection
- Ground Fault Monitoring
- Network Monitoring
- Protection level IP 65

PHOTOVOLTAIC STORAGE BATTERIES

OUR BATTERY RANGE

Explore Our Photovoltaic Storage Batteries Section

In a world where renewable energy is no longer an option but a necessity, photovoltaic storage batteries emerge as the undisputed protagonists of this green revolution. This section of our catalogue is exclusively dedicated to energy storage solutions that promise not only to optimise the use of solar energy collected during the day, but also to revolutionise the way we experience energy sustainability.

Photovoltaic storage batteries are at the centre of this transformation, allowing you to store excess solar energy for use when the sun is not shining. This not only increases the efficiency and self-sufficiency of your photovoltaic system, but also helps reduce dependency on traditional energy sources, with a significant positive impact on the environment.

Within this section, you will find a curated range of the best storage batteries available on the market, selected for their reliability, efficiency and compatibility with various photovoltaic systems. Whether you are a homeowner looking for greater energy independence, or a business looking to reduce your operating costs and carbon footprint, you will find the perfect solution for your needs here.

We invite you to explore our proposals, where each product is accompanied by a detailed description, technical specifications and useful advice to help you make the most suitable choice. With our photovoltaic storage batteries, you can make a concrete contribution to the energy transition, embracing a more sustainable future.

LOW-VOLTAGE SINGLE-PHASE BATCH 5/10KW

TRIPHASE BATTERY HIGH VOLTAGE MODULES 2.5KW

ES-BOX12 / ES-BOX12 PLUS

WALL MOUTED BATTERY

SINGLE-PHASE LOW VOLTAGE

POWER
5.12kW / 10kW

CLASS A+

10 YEARS gArAnzIA

Higher specific energy

8000 charge and discharge cycles

Intelligent BMS to optimise energy yield

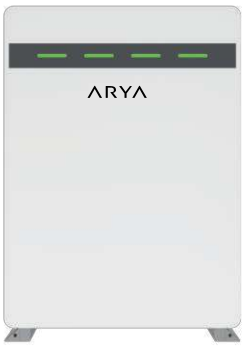
Easy installation

Modular up to 15 batteries in parallel

Protection the environment e no pollution

FEATURES

- accumulator, which offers maximum safety and a long service life even with regular deep discharges.
- The solar storage is equipped with a battery management system (BMS) integrated into each individual module.
- It can be mounted in cabinets or with accessory holders on top of each other or vertically next to each other.
- The system is modular and can therefore be customised to meet the needs of your home or business.
- Installation of up to 15 units.



TECHNICAL DATA	ES-BOX12	ES-BOX12 PLUS
PRODUCT SPECIFICATIONS	51.V 100Ah	51.V 100Ah
NOMINAL VOLTAGE	51.2V	51.2V
NOMINAL CAPACITY	100Ah	202Ah
CELL TYPE	LFP	LFP
STANDARD CHARGING VOLTAGE	58.4V (adjustable)	58.4V (adjustable)
MAXIMUM CHARGE CURRENT	100A	100A
INTERRUPTION VOLTAGE DISCHARGE	40V (adjustable)	40V (adjustable)
MAXIMUM DISCHARGE CURRENT	100A	150A
SCREEN	LED	LED
PARALLEL FUNCTION	10 units in parallel	15 units in parallel
COMMUNICATION INTERFACE	RS485-RS232	RS485-RS232
LIFE CYCLE *	≥8000 Cycles (80%DOD)	≥8000 Cycles (80%DOD)
CHARGING TEMPERATURE RANGE	0~65℃	0~65℃
EXHAUST TEMPERATURE RANGE	-20~65℃	-20~65℃
DIMENSIONS	480x600x150mm	480x650x225mm
WEIGHT	47Kg	93Kg
METHOD OF INSTALLATION	Wall / Floor	Wall / Floor
LEVEL OF PROTECTION	IP22	IP22

HV-BOX3-384

PLUG & PLAY FLOOR BATTERY

HIGH VOLTAGE MODULArE

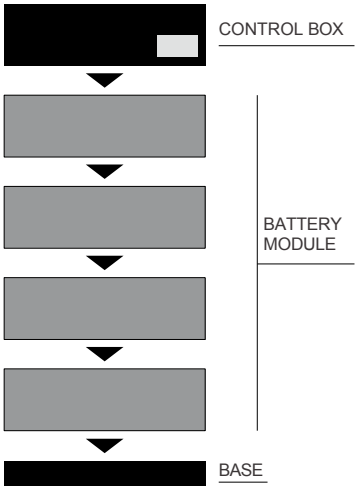
POWER
2.56kw modules

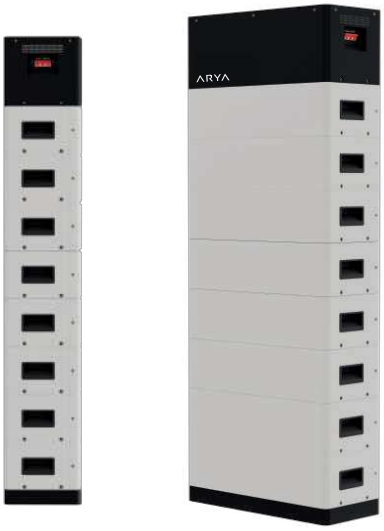
CLASS A+

10 YEARS gArAnzIA

FEATURES

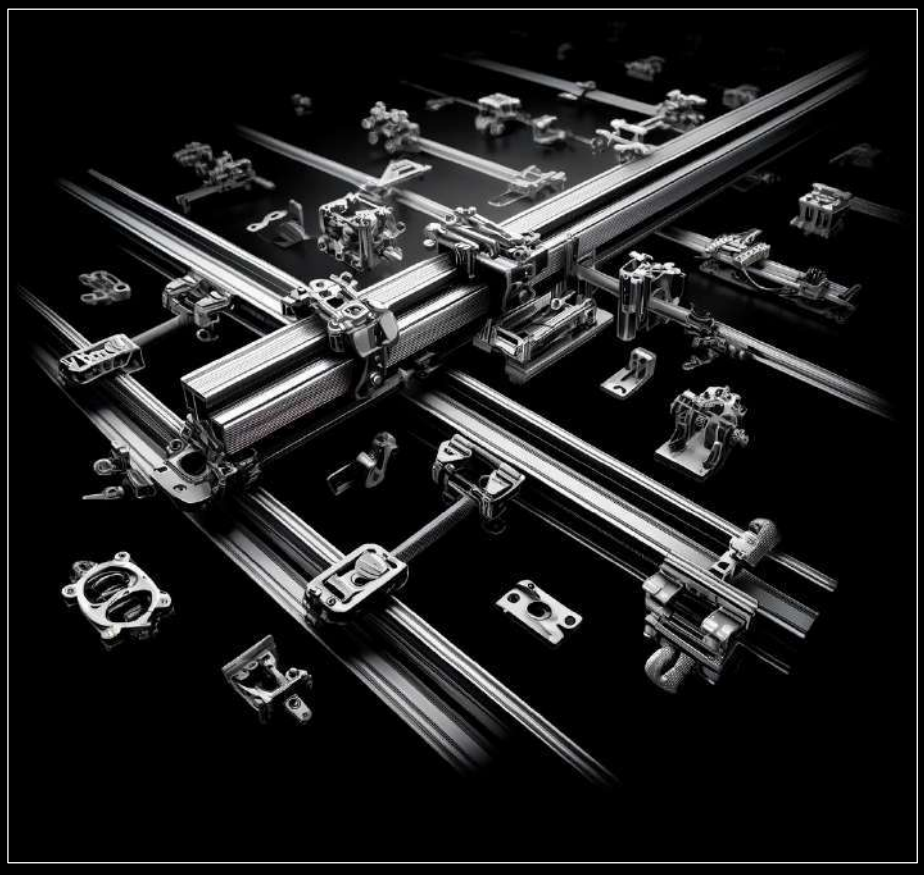
- Modular design, no wiring required
- Easy anytime, anywhere Wi-Fi connection via APP
- 28 kg battery module,
- Easy installation
- Supports 4~8 battery modules connected in series.
- Remote update and easy maintenance
- Intelligently identifies the master-slave
- batteries without DIP address





TECHNICAL DATA	HV-BOX3-204	HV-BOX3-256	HV-BOX3-307	HV-BOX3-358	HV-BOX3-409
NOMINAL VOLTAGE	204,8 V	256 V	307.2 V	358.4 V	409.6 V
NOMINAL CAPACITY	50ah 0.5C	50ah 0.5C	50ah 0.5C	50ah 0.5C	50ah 0.5C
SPEC.	51.2V 50Ah	51.2V 50Ah	51.2V 50Ah	51.2V 50Ah	51.2V 50Ah
WEIGHT	28KG	28KG	28KG	28KG	28KG
DIMENSION	600*260*160mm	600*260*160mm	600*260*160mm	600*260*160mm	600*260*160mm
CONFIGURATION	64S1P	80S1P	96S1P	112S1P	128S1P
CHARGING VOLTAGE	230.4V	288V	345.6V	403.2V	460.8V
DISCHARGE VOLTAGE	179.2V	224V	268.8V	313.6V	358.4V
NOM.CURRENT CHARGE AND DISCHARGE	25A (0.5C)	25A (0.5C)	25A (0.5C)	25A (0.5C)	25A (0.5C)
MAXIMUM CHARGE AND DISCHARGE CURRENT	50A	50A	50A	50A	50A
NOMINAL POWER	5KW	6KW	7.5KW	9KW	10KW
MAXIMUM OUTPUT POWER	10KW	12KW	15KW	18KW	20KW
RECOMMENDED DEPTH OF DISCHARGE	90%	90%	90%	90%	90%
WORKING TEMPERATURE RANGE	-10°C~ +50°C	-10°C~ +50°C	-10°C~ +50°C	-10°C~ +50°C	-10°C~ +50°C
WORKING HUMIDITY RANGE	5-85%RH	5-85%RH	5-85%RH	5-85%RH	5-85%RH
METHOD OF COMMUNICATION	CAN2.0/RS485	CAN2.0/RS485	CAN2.0/RS485	CAN2.0/RS485	CAN2.0/RS485
NUMBER MACHINES IN PARALLEL	10	10	10	10	10
CYCLE DURATION	6000 cycles	6000 cycles	6000 cycles	6000 cycles	6000 cycles
DISPLAY	LCD	LCD	LCD	LCD	LCD
OTA UPDATE	supported	supported	supported	supported	supported
DIMENSION	600*260*920mm	600*260*1080mm	600*260*1240mm	600*260*1400mm	600*260*1560mm
WEIGHT	137kg	165kg	193kg	221kg	249kg
DEGREE OF PROTECTION	IP20	IP20	IP20	IP20	IP20

PHOTOVOLTAIC BALLAST FIXING KIT



OUR FASTENING SYSTEMS

Ballasts for Photovoltaic Systems: Safety and Stability for Every Installation

Ballasts for photovoltaic systems are essential components to ensure the stability and safety of installations, especially in areas exposed to adverse weather conditions such as strong winds or storms. Designed to firmly anchor solar panels without the need to drill into installation surfaces, our ballasts offer a reliable and durable solution for all types of installations, whether on flat or sloping roofs.

Features and Advantages of Our Ballasts:

1. Reliable Protection: The ballasts provide solid support for the panels, reducing the risk of damage due to wind movement. Their effectiveness is guaranteed by rigorous testing and careful design with regard to load dynamics.

2. Non-Penetrating Installation: One of the main features of ballasts is their ability to offer a non-penetrating fastening system. This is ideal for roofs where it is not possible or desirable to drill holes, such as those in bituminous material or PVC, preserving the integrity and warranty of the roof.

3. Ease of Installation: The ballasts are designed to be easy to install, allowing the photovoltaic system to be set up quickly. This minimises installation time and reduces labour costs.

4. Versatility: Suitable for a wide range of surfaces and inclinations, our ballasts fit almost any type of roof. They offer considerable flexibility in terms of configuration and arrangement of photovoltaic arrays.

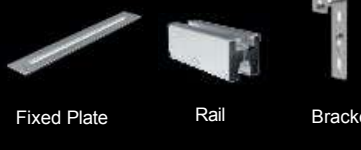
5. High Quality Materials: Manufactured from corrosion and weather resistant materials, our ballasts guarantee long life and minimal maintenance, effectively resisting the natural elements.

6. Sustainability: By contributing to the stability of photovoltaic systems, ballasts support the use of renewable energy and help reduce the overall environmental impact of the energy system.

Explore our range of ballasts to find the perfect solution to meet specific needs of your photovoltaic project. With our products, you can count on a safe, stable and high-performance system that can withstand time and weather.

PHOTOVOLTAIC CLAMPING SYSTEM

SOLAR BALCONY FASTENING SYSTEM



Balcony Bracket Kit for Photovoltaic Panels

We introduce our innovative Balcony Bracket Kit, the ideal solution for those who wish to harness solar energy in confined spaces such as balconies or terraces. This kit is designed to maximise the efficiency of solar panels in urban environments, allowing everyone to contribute to clean energy production, even without a large outdoor space.

Ease of Installation: Our kit has been developed with the aim of ensuring a quick and easy installation. It includes all the necessary components for safely mounting one or more photovoltaic panels on the balcony breast- ray, without the need for drilling or invasive intervention in the existing structure.

Adaptable design: Thanks to the modular and versatile design, the kit can be adapted to almost any type and size of balcony. The components are adjustable and can be configured to optimise the angle of the panels with respect to the sun, thus improving the effectiveness of energy harvesting.

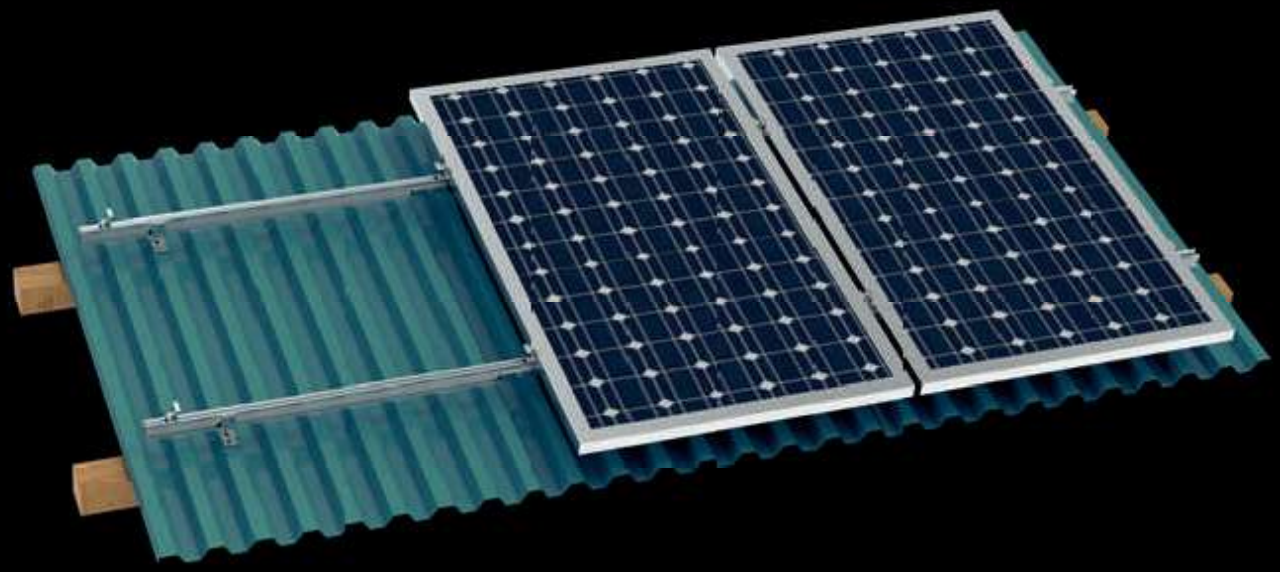
Resistant and Durable Materials**:** Made of high-quality, weatherproof and UV-resistant materials, the kit components guarantee durability and resistance over time. This ensures that your photovoltaic modules are always firmly anchored and protected, regardless of weather conditions.

Certified Safety**:** Safety is our priority. The kit has been rigorously tested to ensure that it can withstand loads and stress without compromising stability. Every component follows the highest safety standards to provide complete peace of mind.

Minimal Environmental Impact: Installing photovoltaic panels on a balcony with our bracket kit means choosing greener and more sustainable living. Not only does this system reduce your energy bills, it also helps reduce your carbon footprint, supporting your environmental sustainability goals.

Our Balcony Bracket Kit is the perfect choice for city dwellers who want to enjoy the benefits of solar energy without sacrificing the aesthetics and functionality of their outdoor space. Explore how our ik t can transform your balcony into a clean and efficient energy source.

ROOF-MOUNTING SYSTEM
DOUBLE THREAD SCREW KIT WITH L-SHAPED PLATE



Structure system with suspension bolts for roof-mounted solar panel.

It is a universal solar mounting system for metal roofs, pitched roofs with wooden rafters or concrete roofs.

Hanger Bolt

Rail

Rail Splice

Mid Clamp

End Clamp

TECHNICAL SPECIFICATIONS	
MATERIAL	Frame: AL-6005-T5 (anodised) Components: SUS304 and AI6005-5 (agnostic)
APPLICATION	Commercial and residential installation
ANGLE OF INCLINATION	0-60'
WIND SPEED	0- 60 m/s
SNOW LOAD	0-150 cm
GUARANTEE	12 years

ROOF-MOUNTED D-SYSTEM

BRACKET KIT ADJUSTABLE

Suitable for t roof

Simple installation steps:
Adjust the appropriate position then use the self-drilling screw to secure the hook to the beam
Hook and rail fixing using bolts and nuts Positioning of panels on the rail with intermediate and end clamps

Our advantages
1. Highly pre-assembled
2. Great flexibility in different designs
3. Long life

Bracket

Rail

Rail Splice

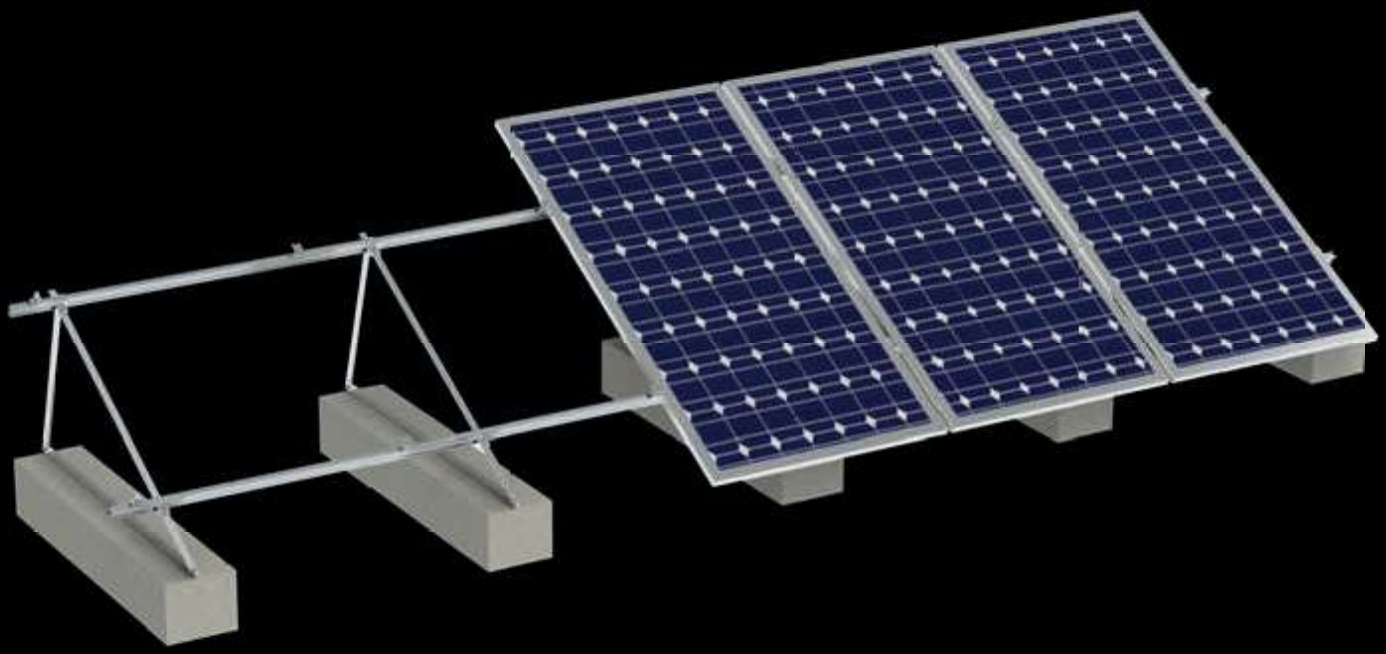
Mid Clamp

End Clamp

TECHNICAL SPECIFICATIONS	
MATERIAL	Components: AL6005-T5(Anodised) Components: AL6005-T5 (Anodised) /SUS304/SUS410
APPLICATION	Solar roof installation
WIND SPEED	0- 45 m/s
SNOW LOAD	0-150 cm
GUARANTEE	12 years

PHOTOVOLTAIC MOUNTING SYSTEM

MOnTaGE SySTEM
ADJUSTABLE SUPPORT KIT



It is mainly used on concrete roofs or aluminium alloy solar triangular solutions with concrete ballasts. High corrosion resistance.

Advantages of this adjustable solar mounting system: The biggest advantage is the multi-angle adjustment: 10-15°, 15-30°. Suitable for low wind and low locations without snow

Triangle

Rail

Rail Splice

Mid Clamp

End Clamp

Rail Clamp

TECHNICAL SPECIFICATIONS	
MATERIAL	Frame: AL-6005-T5 (anodised) Components: SUS304 and AI6005-5 (agnostic)
APPLICATION	Commercial and residential installation
ANGLE OF INCLINATION	10-15°，or 15-30°
WIND SPEED	0- 60 m/s
SNOW LOAD	0-150 cm
GUARANTEE	12 years

FIXING System for flat roof

ZAVORRATED

SINGLE EXPOSURE	DOUBLE EXPOSURE
	

FIXING system for flat roofs

BALLASTED STEEL

SINGLE DIRECTION	DOUBLE DIRECTION
	

Ground Fixing System

IN ALUMINIUM
IN HDG
IN MG-AL-ZN

ALUMINIUM	HDG	Mg-Al-Zn
		

ON REQUEST
FIXING System GROUND

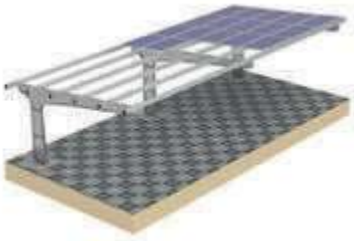
IN ALUMINIUM

SINGLE-PILLAR

CARPORT SOLAR System

ALUMINIUM
STEEL

ALUMINIUM	STEEL

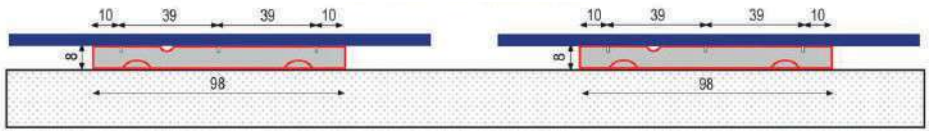


BALLASTED SUPPORT FOR PHOTOVOLTAIC SYSTEM

SUPPORT INCLINATION 0°

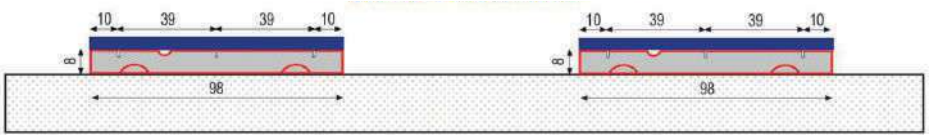
VERTICAL MODULE LAYING

FRONT VIEW



HORIZONTAL MODULE LAYING

FRONT VIEW



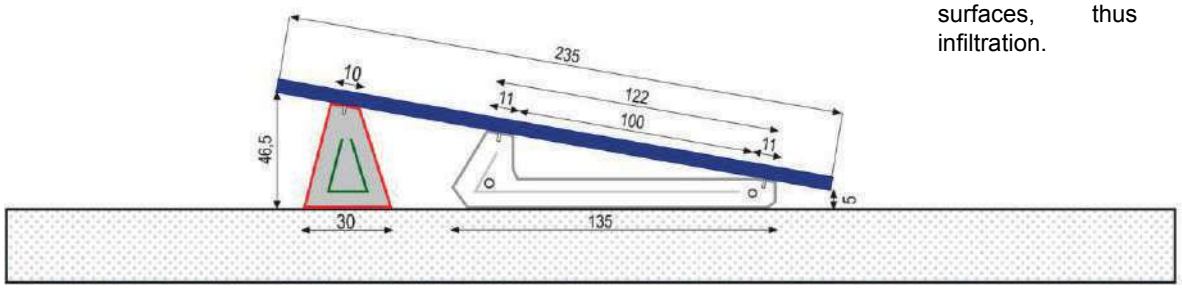
This product is designed for the anchoring of structures and/or photovoltaic modules on flat roofs and on beaten ground with a maximum slope of 5°, made entirely of durable concrete.
This product is equipped for the attachment of the structure and/or modules.
This system makes installation easier and, above all, avoids the need to drill holes in surfaces, thus eliminating seepage.

SUPPORT INCLINATION 10°

VERTICAL MODULE LAYING

FRONT VIEW

Distance between panels 60 cm / 80 cm



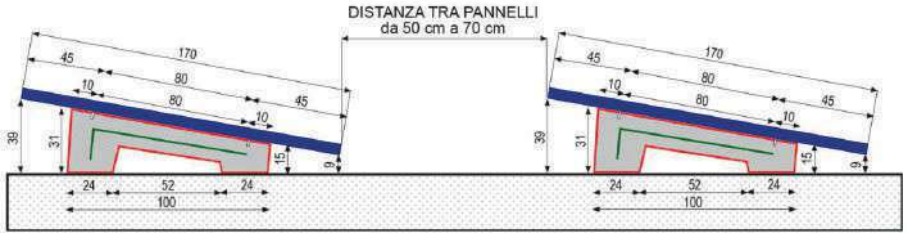
This product is designed for the anchoring of maxi-format photovoltaic modules on flat roofs and on beaten ground with a maximum slope of 5°, made entirely of durable concrete.
This product is equipped with a module attachment. This system makes installation simpler and, above all, avoids drilling holes in surfaces, thus eliminating infiltration.

BALLASTED SUPPORT FOR PHOTOVOLTAIC SYSTEM

SUPPORT INCLINATION 10°

VERTICAL MODULE LAYING

FRONT VIEW



HORIZONTAL MODULE LAYING

FRONT VIEW

It is designed for the anco- beam of photovoltaic modules on flat roofs and on beaten ground with a maximum slope of 5°, made entirely of durable concrete.
It is equipped for module attachment.
This system makes installation easier and, above all, avoids the need to drill holes in surfaces, thus eliminating seepage.

Distance between
panels 60 cm / 80 cm

SUPPORT INCLINATION 17°

VERTICAL MODULE LAYING

FRONT VIEW

HORIZONTAL MODULE LAYING

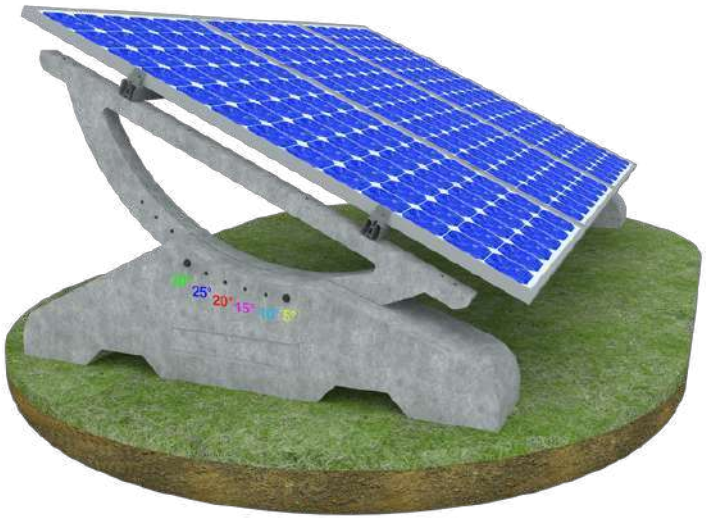
FRONT VIEW

It is designed for the anco- beam of photovoltaic modules on flat roofs and on beaten ground with a maximum slope of 5°, made entirely of durable concrete.
It is equipped with a predisposition for module attachment. This system makes installation simpler and, above all, avoids drilling into surfaces, eliminating infiltration.

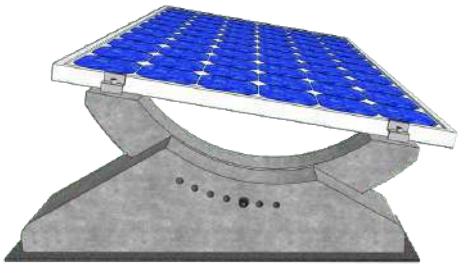
Distance between
panels 60 cm / 90 cm

BALLASTED SUPPORT

ADJUSTABLE BALLAST
WITH TILTING
0°- 5°- 10°- 15°- 20°- 25°- 30°



Our ballasts with their innovative, patented tilt variation system have become a reference for entire industry over the years. The ease of installation, combined with the solidity of the structure, low maintenance and the guarantee of certified safety, make them the preferred choice of many planners and installers for all systems on flat surfaces.



BALLASTED SUPPORT

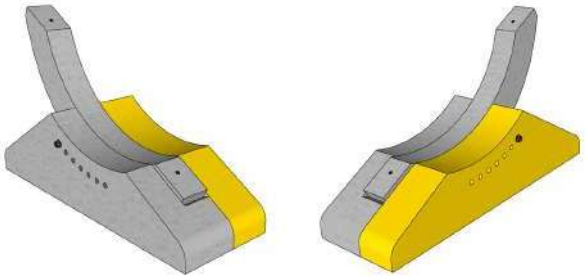
ADJUSTABLE BALLAST WITH TILTING
0°- 5°- 10°- 15°- 20°- 25°- 30°

Ideal ballasts in all situations
Horizontal, vertical, east/west arrangement
The flat roof and ground system adapts to different module arrangements

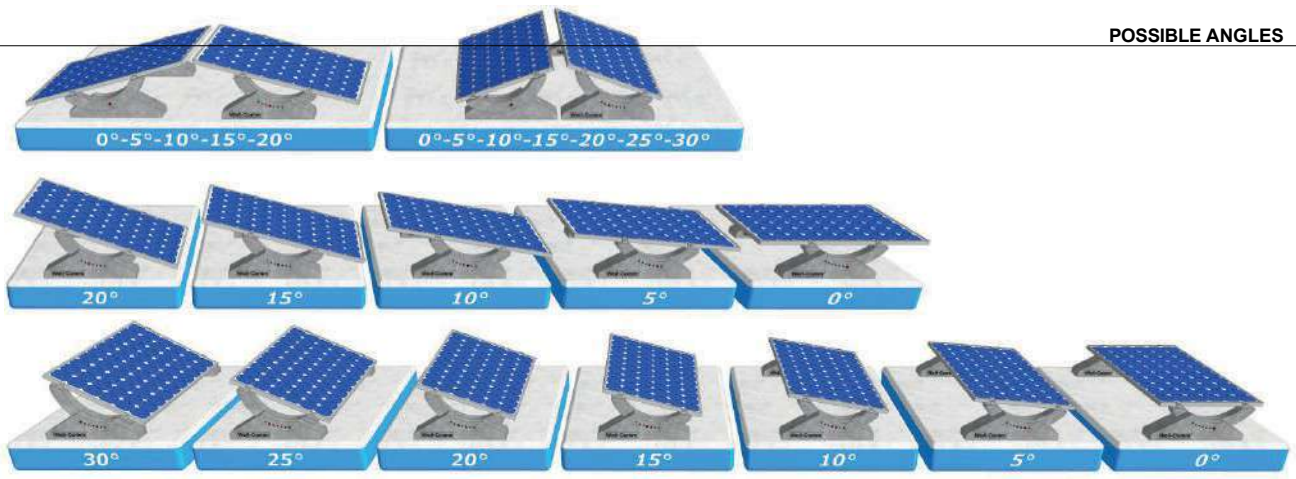
High windiness
Our ballasts are tested in a TÜV Rheinland validated wind tunnel. Resistance to tipping and winds over 300 km/h
download certification

Large modules
When photovoltaic module prescriptions do not allow horizontal positioning, the vertical arrangement option becomes an ideal solution, solving many installation problems for large-format modules.

Large modules
When photovoltaic module prescriptions do not allow horizontal positioning, the vertical arrangement option becomes an ideal solution, solving many installation problems for large-format modules.

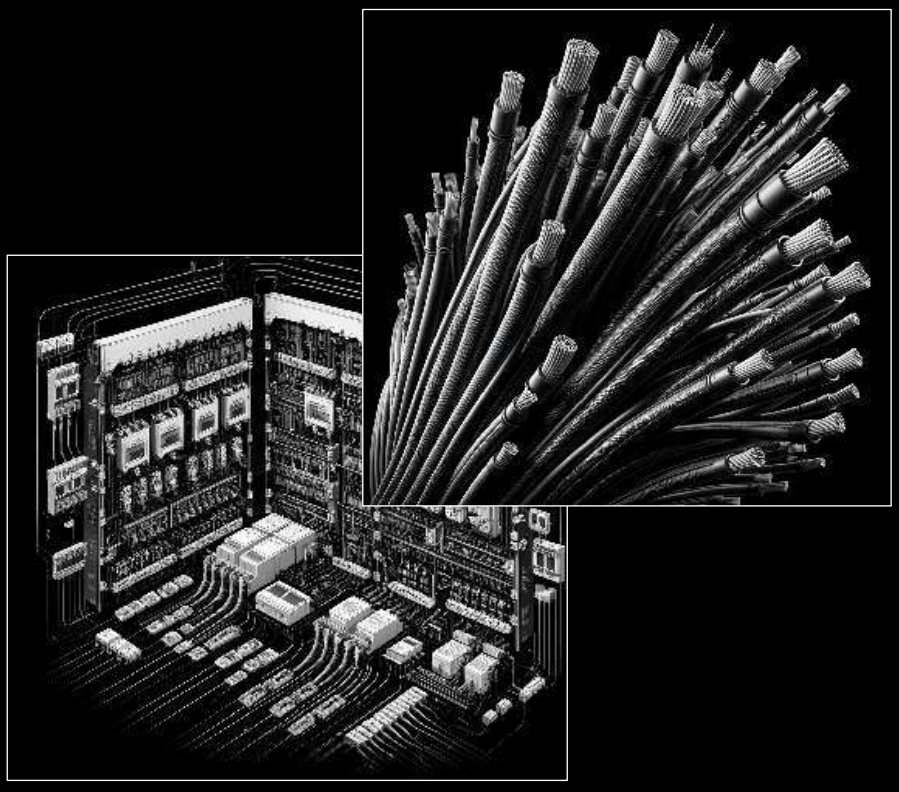


POSSIBLE ANGLES



TECHNICAL SPECIFICATIONS	
DESCRIPTION	Reinforced concrete ballast with threaded A2 stainless steel bushes
MODULE FIXINGS	M8x30 stainless steel A2 bushings flush with top for direct fastening of modules
APPLICATION	Flat roofs and any flat or slightly inclined surface, grassy or beaten ground.
POSSIBLE ANGLES	Horizontal modules 0°- 5°- 10°- 15°- 20°- 25°- 30° - Vertical modules 0°- 5°- 10°- 15°- 20°
UNIFIED SYSTEM	Adjustable system 0°- 5°- 10°- 15°- 20°- 25°- 30° with stainless steel fixing pin A2 included
MODULE ORIENTATION	Orientation South - Orientation East/West
BALLAST WEIGHT	68 kg (50 kg lower ballast - 18 kg upper ballast)

PHOTOVOLTAIC
ELECTRIC PANELS
ELECTRIC CABLES



OUR ELECTRIC PANELS

Electrical Panels for Photovoltaic Systems Section

Welcome to the section dedicated to switchboards, an essential component for the efficient and safe operation of your photovoltaic system. Our switchboards are designed to optimise the performance of your solar system, guaranteeing safety and durability.

Control and Safety: The switchboards we offer are the central control point for the energy produced by your solar panels. Equipped with state-of-the-art protection devices, they effectively manage the flow of energy, protecting the system from overloads, short circuits and other electrical faults. This ensures not only the safety of the system, but also that of your home.

Integration and Monitoring: Each cabinet is equipped with modern monitoring systems that allow you to monitor the performance of your plant in real time. This functionality is essential for maintaining system efficiency, allowing you to quickly identify and solve any problems.

Customisation and Flexibility: We offer customised solutions for all types of photovoltaic installations, both residential and industrial. Our switchboards can be configured to suit different sizes and types of installations, always guaranteeing maximum operational efficiency.

Certifications and Compliance: All our products comply with the most stringent national and international safety standards. The certification of these switchgear ensures that each component complies with applicable regulations, providing additional peace of mind regarding the quality and reliability our equipment.

Discover our range of switchboards and choose the solution that best suits your needs. With the right switchboard, you can maximise the performance of your photovoltaic system and enjoy safe, efficient and innovative energy management.

Residential electrical panels are the heart of any home's electrical system. Essential for safety and efficient energy management, these panels centralise electrical circuits and connections, ensuring that energy is distributed correctly and safely throughout the home.
Equipped with circuit breakers, fuses and relays, the switchboards control and protect the household electrical system from overloads and short circuits, preventing safety hazards. Modern and configurable, they are designed to be easily accessible and manageable.

Alternating switchboard ac photovoltaics for single-phase systems

Power	3 / 6 kWp
Single-phase inverter	1
No. 1 residual current circuit breaker	1P+N 20A/25A/32A 6kA 300mA Class A
Single-phase surge arrester	class II Imax 20kA
Degree of protection Panel	IP65 Class II
dimensions (BxHxD)	164 x 200 x 116 mm

AR-QIT3L

AR-QIT6L

Single-phase dc/ac 1 string

DC side:

No. 1 2P switch fuse holder with fuses 12A - 1000VDC	No. 1 Surge arrester 600VDC
No. 1 Underload disconnector	12/16A 600VDC

AC side:

No. 1 earth leakage circuit breaker (1P+N) (20A)	6kA 300mA Class A
No. 1 Single-phase surge arrester Protection class	class II Imax 20kA IP65
Segregation between DC/AC	
Declaration of conformity Panel	CEI EN 61439-1/2
dimensions (BxHxD)	340 x 432 x 161 mm

AR-UBM1101L

Single-phase dc/ac switchbox 2 independent strings

DC side:

No. 2 2P switch fuse holder with fuses 12A - 1000VDC	No. 2 Surge arrester 600VDC
No. 2 Underload disconnector	12/16A 600VDC

AC side:

No. 1 earth leakage circuit breaker (1P+N) (20A)	6kA 300mA class A
No. 1 Single-phase surge arrester Protection class	class II Imax 20kA IP65
Segregation between DC/AC	CEI EN 61439-1/2
Declaration of conformity Panel	340 x 432 x 161 mm
dimensions (BxHxD)	

AR-UBM2102L

Alternating switchboard AC photovoltaics for three-phase systems

Three-phase inverter power	6 / 11 kW 1
No. 1 thermal-magnetic circuit breaker with differential lockout	4x16/20A 6KA 300mA class A
Three-phase overvoltage arrester Protection class	class II Imax 20kA IP65 CEI EN 61439-
Declaration of conformity	1/2
Panelboard measurements (BxHxD)	448 x 282 x 141 mm

AR-QACT6L

AR-QACT10L

Single-phase dc/ac 2 strings

DC side:

N°2 2P switch-disconnector fuse holder with fuses 12A - 1000VDC	
N°1 Surge arrester	600VDC
No. 1 Underload disconnector	32A-600VDC

AC side:

No. 1 earth leakage circuit breaker (1P+N) (20A)	6kA 300mA Class A
No. 1 Single-phase surge arrester Protection class	class II Imax 20kA IP65
Segregation between DC/AC	
Declaration of conformity Panel	CEI EN 61439-1/2
dimensions (BxHxD)	340 x 432 x 161 mm

AR-UBM1102L

Single-box dc/ac switchgear 2 independent three-phase strings

DC side:

No. 2 2P switch fuse holder with fuses 12A - 1000VDC	No. 2 Surge arrester 600VDC
No. 2 Underload disconnector	12/16A 600VDC

AC side:

No. 1 thermal-magnetic circuit breaker with differential lockout	4x16/20A 6KA 300mA class A
Three-phase overvoltage arrester Protection class	class II Imax 20kA IP65
Segregation between DC/AC	
Declaration of conformity Panel	CEI EN 61439-1/2
dimensions (BxHxD)	340 x 432 x 161 mm

AR-UBT2102L

Field switchboard 2 strings in parallel

Strings	2
2 2P fuse holder 1 Surge arrester	4 fus.12A - 1000VDC
1 Disconnector	2P+ground (600/1000VDC)
Degree of protection Declaration of conformity Panel dimensions (BxHxD)	32A (600/800/1000VDC) IP65 class II CEI EN 61439-1/2 340 x 282 x 141 mm

AR-QCM1602L600VDC

AR-QCM1802L800VDC

Single-box dc/ac switch cabinet 2 three-phase strings

DC side:	
No. 2 2P switch fuse holder with fuses	12A - 1000VDC
No. 1 Surge arrester No. 1	600VDC
Underload disconnector	32A - 600VDC
AC side:	
No. 1 three-phase circuit breaker with differential lockout	4x16A - 6kA 300mA class A
No. 1 Three-phase surge arrester Protection class	class II Imax 20kA IP65 Class II
Segregation between DC/AC	
Declaration of conformity	CEI EN 61439-1/2
Panel dimensions (BxHxD)	448 x 432 x 161 mm

AR-UBT1102L

Field switchboard 2 independent strings

Independent strings	2
2 2P fuse holder 2 Surge arrester	4 fus.12A
2 Disconnector	2P+ground (600/1000VDC)
Degree of protection Declaration of conformity Panel dimensions (BxHxD)	12/16A (600/800/1000VDC) IP65 class II CEI EN 61439-1/2 340 x 432 x 161 mm

AR-QCM2602L600VDC

AR-QCM2802L800VDC

AR-QCM2102L 1000VDC

Fieldbus 1 string

String	1
1 2P fuse holder 1 Surge arrester	2 fus.12A - 1000VDC
1 Disconnector	2P+ground (600/1000VDC)
Degree of protection Declaration of conformity Panel dimensions (BxHxD)	12/16A (600/800/1000VDC) IP65 class II CEI EN 61439-1/2 340 x 282 x 141 mm

AR-QCM1601L 600VDC

AR-QCM1801L 800VDC

AR-QCM1101L 1000VDC

Electrical interface panels 20/1 kWp (1 inverter)

Low-voltage with interface relay in accordance with CEI 0-21 and Annex A.70 of the grid code

TEST REPORT INCLUDED

Power	20kWp
Three-phase inverter	1
Circuit breaker (main switchboard)	63A
Release coil (tamping control)	230V
1P+N switch fuse holder (for auxiliary circuit protection) 10A fuse	
3P+N isolator fuse holder (for protection interface relay voltage presence)	fuse 10A
3P+N fuse holder (overvoltage arrester protection)	fuses 32A
Three-phase surge arrester	class II Imax 20kA
4P contactor (interface device)	50A - AC3
Interface relays	compliant with IEC-021
Thermal-magnetic circuit breaker with differential lock (to protect the inverter)	4x40A 6 kA 300 mA Class A
Cable input/output terminal block	numbered
Degree of protection	IP 65 class II IEC
Declaration of conformity	EN 61439-1/2
Panelboard measurements (BxHxD)	400 x 610 x 257 mm

AR-QIT20/1

Electrical interface box slim 6/10/12/15 kWp

Low-voltage with interface relay in accordance with CEI 0-21 and Annex A.70 of the grid code

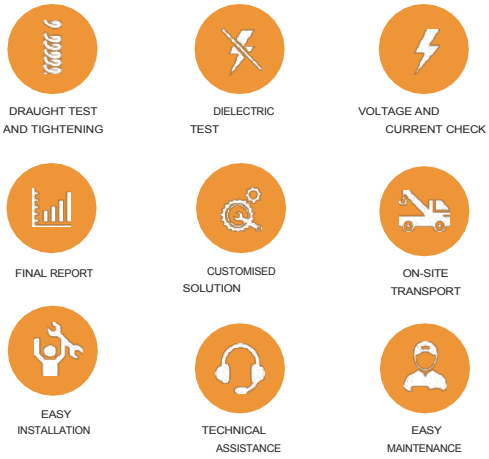
TEST REPORT INCLUDED

Three-phase	6/10/12/15 kWp
inverter power	1
Circuit breaker (main switchboard)	4x32A
1P+N switch fuse holder (for auxiliary circuit protection) 10A fuse	
3P+N isolator fuse holder (for protection of interface relay voltage presence)	fuse 10A
3P+N fuse holder (overvoltage arrester protection)	20A fuses
Three-phase surge arrester	class II Imax 20kA
4P contactor (interface device) Interface	26/38A - AC3
relay	compliant with IEC-021
Thermal-magnetic circuit breaker with differential lock (to protect the inverter)	4x20A/25A/32A 6 kA 300 mA class A
Cable input/output terminal block	numbered
Protection class	IP 65 class II
Declaration of conformity	CEI EN 61439-1/2
Panelboard measurements (BxHxD)	448 x 622 x 161 mm

AR-QITS

All the paintings are composed :

- Thermal-magnetic circuit breakers of adequate rating with 6kA breaking capacity;
- 3-position manoeuvre switch with adequate capacity, for manual switching of energy/off-grids;
- Contactors of appropriate capacity, for switching automatic of enel/off-grids;
- Network presence indicator lights;
- Enclosure made of thermoplastic material with IP65 protection rating with resistance to dynamic and atmospheric agents - insulation class II - screen-printed rating plates and wire, terminal and terminal numbering system.



Manual switchboard three-phase 6/10/12 KWp

Magnetothermal switch (general from enel mains)	4x16/20/25A 6kA
Portafus. Sect. 3P+N (prot. enel grid light)	Fus. 2A
Grid presence warning light	Red
Enel/off-grid by-pass switch	32A
Thermal-magnetic circuit breaker (general off-grid)	4x16/20/25A 6kA
3P+N sect. fuse holder (off-grid grid light prot.)	Fus. 2A
Off-grid grid presence warning light	Red
Degree of protection	IP65 Class II
Declaration of Conformity	CEI EN 61439-1/2
Panelboard dimensions (BxHxD)	448 x 432 x 161 mm

AR-QOFFT6

AR-QOFFT10

AR-QOFFT12

Manual switchboard single-phase 1/3/6 KWp

Magnetothermal switch (general from enel mains)	2x10/20/32A 6kA
Portafus. Sect. 1P+N (light prot. from mains)	Fus. 2A
Grid presence warning light	Red
Enel/off-grid by-pass switch	32A
Thermal-magnetic circuit breaker (general off-grid)	2x10/20/32A 6kA
1P+N sect. fuse holder (off-grid grid light prot.)	Fus. 2A
Off-grid grid presence indicator	Red
Degree of protection	IP65 Class II
Declaration of Conformity	CEI EN 61439-1/2
Panelboard dimensions (BxHxD)	340 x 282 x 141 mm

QOFF1

QOFF3

QOFF6

Single-phase 1/3/6 KW automatic switching cabinet

Thermal-magnetic circuit breaker (general from enel grid)	2x10/20/32A 6kA
Bus holder. Sect. 1P+N (light prot. from enel grid)	Fus. 2A
Electricity grid presence indicator light	Red
N.2 contactors (2NO+2NC) for switching automatic enel/off-grid	(32/40A-AC1)
Fus. holder 1P+N (Prot. contactor coils)	Fus. 10A
Thermomagnetic circuit breaker (general off-grid)	2x10/20/32A 6kA
Bus. holder sect. 1P+N (Prot. off-grid grid light)	Fus. 2A
Off-grid grid presence indicator	Red
Degree of protection	IP65 Class II
Declaration of Conformity	CEI EN 61439-1/2
Panelboard dimensions (BxHxD)	448 x 282 x 141 mm

QOFFA1

QOFFA3

QOFFA6

OUR ELECTRIC CABLES

Photovoltaic Cables Section

Welcome to our section on electrical cables for photovoltaic systems, where quality and reliability meet to ensure maximum safety and energy efficiency. Our cables are specifically designed to connect solar panels, inverters and other critical components of your photovoltaic system, ensuring safe and optimal energy transmission.

ELECTRIC CABLE
4MM

ELECTRIC CABLE
6MM

Safety and Compliance: All our cables are certified according to the strictest international safety and fire regulations. This ensures that each installation is not only efficient but also safe, minimising the risk of short circuits or fire.

Ease of Installation: Our cables are flexible and easy to handle, designed for quick and simple installation. This reduces installation time and labour costs, while also facilitating any maintenance or modifications to the system.

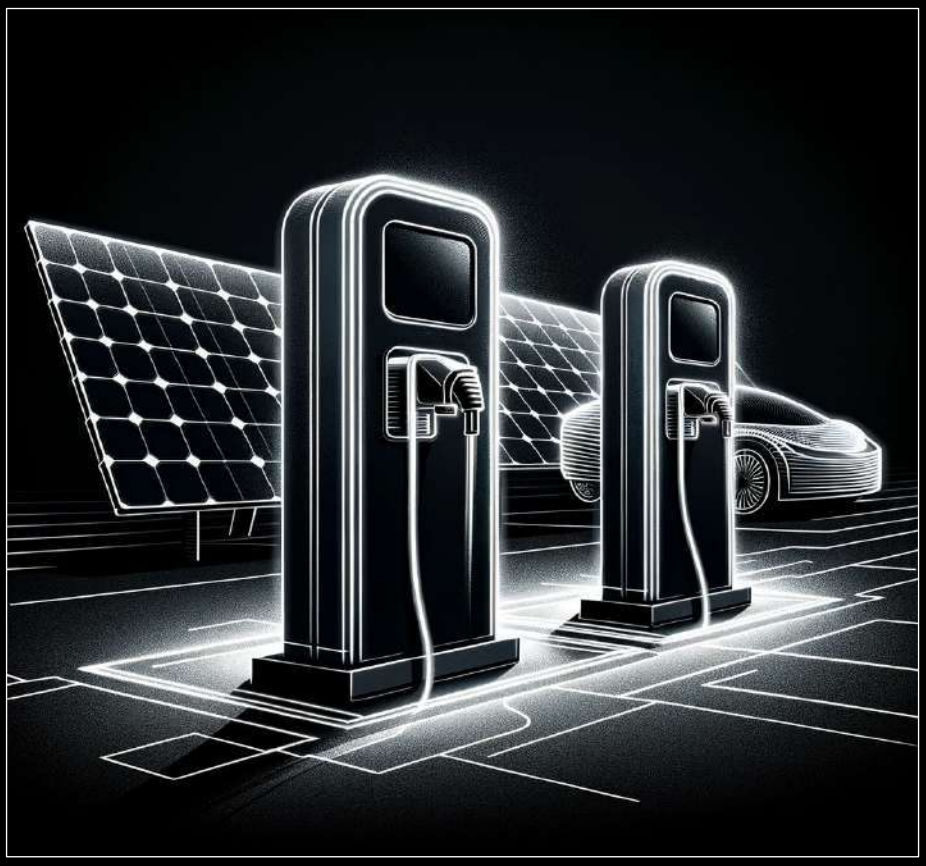
UV and ozone resistant, resistant to hydrolysis. High temperature resistance, durability of more than 25 years. Good flexibility, easy installation and laying.

Halogen-free and low smoke material,
in line with environmental protection requirements.

Compatible with all common connectors.

GENERAL DATA	ELECTRIC CABLE 4MM	ELECTRIC CABLE 6MM
NOMINAL VOLTAGE	U0/U 0.6/1KV(AC) 1800DC (not loaded)	
TEST VOLTAGE	AC6.5KV/5min (20°±0.5) or DC15KV/5min (20°±C-0.5) without failure	
ROOM TEMPERATURE	-40°C~+90°C	
MAXIMUM TEMPERATURE CONDUCTOR	120°C	
MAXIMUM SHORT-CIRCUIT TEMPERATURE	250°C/5s	
EXPECTED DURATION	25 years of age	
BENDING RADIUS	≥4D	
CONDUCTOR OF THE CON	Class 5 clogged copper flexible conductor in 2Pfg1169	
INSULATION	LSZH cross-beam polyolefin (125°C)	
GUAIN	LSZH cross-beam polyolefin (125°C)	
COLOUR	Red or black	
FIRE RESISTANCE	EN 60332-1-2	
SOLUTION OF ACID AND ALKALI	EN 60811-2-1	
HALOGEN DETERMINATION	EN 50267/EN 60684	
WEATHERING/UV RESISTANCE	HD 605/A1	
CERTIFICATION OF CONFORMITY	TUV of ROHS	
EXECUTIVE STANDARD	2 Pfg 1169/08.2007	

PHOTOVOLTAIC WALLBOX



OUR WALLBOX RANGE

Residential and Industrial Wallboxes Section

Welcome to our electric vehicle charging solutions section, where technology sustainability. We offer a wide range of charging stations (wallboxes) designed to meet every need, in both residential and industrial environments. Our solutions are designed to fit perfectly into any context, guaranteeing efficiency, safety and ease of use.

For the Home: Our residential wallboxes are ideal for those looking for a convenient and fast charging solution directly at home. Easy to install and even simpler to use, these wallboxes will allow you to fully enjoy your electric car, ensuring optimal charging during the night or when you are at home.

For Industry: Our industrial solutions are designed for companies that want to offer their employees, customers or company fleets quick and easy access to charging. Robust and high-performance, these wallboxes are capable of handling high volumes of usage while ensuring maximum efficiency. They are ideal for company car parks, hotels, shopping centres and more.

Technology and Innovation: All our charging stations are equipped with the latest technology, including intelligent features such as charging scheduling, remote monitoring and advanced security systems. With our technology, you will not only reduce charging times but also optimise energy consumption.

Environmental Commitment: Investing in a wallbox means choosing a greener future. We promote sustainable mobility through solutions that reduce emissions and environmental impact, supporting our customers in the adoption of renewable energy and eco-friendly practices.

Discover our selection of charging stations and choose the solution that best suits your needs. With our products, the transition to cleaner energy and sustainable mobility has never been so accessible.

WALL BOX
3.5KW SINGLE-PHASE

WALL BOX
7KW SINGLE-PHASE

WALL BOX
11/12KW THREE-PHASE

WALLBOX
SINGLE-PHASE

POWER
3.5k-7W

WALLBOX
THREE-PHASE

POWER
11/kW - 22kW

Single-phase charging columns:

Single-phase wallboxes use 230 volt electricity and are generally more suitable home use. These models are ideal for those with a standard electrical system without need for major installation work. Single-phase wallboxes are perfect for recharging at night or during off-peak hours, offering:

Simple installation: Suitable for most homes without requiring substantial modifications to the existing electrical system.
Reduced Costs: Generally less expensive than three-phase versions, they are an economical solution for many domestic users.
Adequate charging: They provide charging power ranging from 3.7 kW to 7.4 kW, sufficient for a full overnight charge.

Three-phase charging columns:

Three-phase wallboxes operate at 400 volts and are often recommended for industrial applications or for those who require faster charging. These models are ideal for environments such as companies, public car parks or residential complexes where the use of electric vehicles is more intensive. The three-phase charging stations offer:

Fast Recharging: Capable of recharging vehicles much faster, with power ratings of up to 22 kW, allowing full recharges in just a few hours.
Superior Efficiency: Ideal for those who use the vehicle frequently and need reduced charging times.
Adaptability: Most suitable for contexts where a three-phase electrical system is already in place, such as in some new residential or commercial buildings.

TECHNICAL DATA	3.5KW SINGLE-PHASE	11KW TrIFASE	22KW TrIFASE
INPUT VOLTAGE	AC 230V	AC 230V	AC 230V
OUTPUT VOLTAGE	400V	400V	400V
INPUT FREQUENCY	47-63Hz	47-63Hz	47-63Hz
MAXIMUM OUTPUT POWER	3.5 kW (single-phase)	11 kW (three-phase)	22 kW (three-phase)
MAXIMUM OUTPUT CURRENT	32A	32A	32A
TYPE OF INTERFACE	IEC 62196-2, SAEJ1772	IEC 62196-2, SAEJ1772	IEC 62196-2, SAEJ1772
DIMENSIONS (L/L/P)	295x195x65 mm	295x195x65 mm	295x195x65 mm
WEIGHT	6kg	8kg	8kg
LCD SCREEN	3.5" colour display	3.5" colour display	3.5" colour display
RCD	Type A+6	Type A+6	Type A+6
LED INDICATOR	yes	yes	yes
CURRENT REGULATION	yes	yes	yes
ROOM TEMPERATURE	-40°C-+75°C	-40°C-+75°C	-40°C-+75°C
RELATIVE HUMIDITY	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
MAXIMUM ALTITUDE	<2000m	<2000m	<2000m
COOLING	natural air	natural air	natural air
STANDBY POWER CONSUMPTION	<8 W	<8 W	<8 W
DEGREE OF PROTECTION IP	IP66	IP66	IP66

TECHNICAL DATA	7KW SINGLE-PHASE
NOMINAL VOLTAGE	220V~240V AC
RATED CURRENT	32A
FREQUENCY	50/60Hz
OUTPUT VOLTAGE	220V~240V AC
MAXIMUM CURRENT	32A
MAXIMUM POWER	7kW
CHARGING CONNECTOR	Type 2 cable or type 2 socket
CABLE LENGTH	5m
LED LIGHT	Green / Yellow / Red
RFID READER	Mifare ISO/EC 14443A (Max 5)
EXTERNAL COMMUNICATION	Wi-Fi 2.4G / Bluetooth
IP LEVEL	IP65
TEMPERATURE	-30° C- +50°C
HUMIDITY	5%~95%
ALTITUDE	<2000m
DIMENSIONS	315*163*92 mm (H*W*D)
PACKAGE DIMENSIONS	434*324*210mm (L*W*H)
WEIGHT	4.5

SOLAR THERMAL

THE COMFORT
YOU LIVE

SOLAR THERMAL DIVISION

Solar Thermal Systems: Efficiency and Sustainability for the Future

Solar thermal systems offer an environmentally friendly and highly efficient solution for domestic hot water production and heating support. By harnessing the renewable and inexhaustible energy of the sun, these systems significantly reduce energy consumption with minimal environmental impact.

Through the use of advanced solar collectors, solar thermal systems capture solar heat and transform it into thermal energy, ensuring sustainable and economical resource management.

This not only contributes to the reduction of **CO** emissions, but is also a smart choice for those wishing to cut energy costs and improve the efficiency of their home or business.
Our solar thermal systems are designed to offer high performance in every climate context, adapting to different needs in both residential and commercial settings. Discover how solar energy can transform the way you manage your heating and hot water, improving comfort and contributing to a more sustainable future.

MAGICSUN
MONOBLOC NATURAL
CIRCULATION 150L / 200L

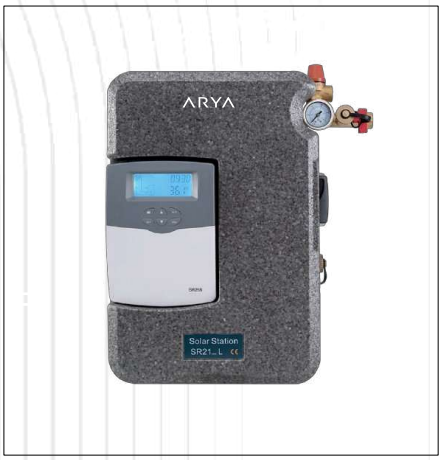
NATURALSUN
KIT
NATURAL CIRCULATION
200L / 300L

FORCESUN
FORCED CIRCULATION
MANIFOLDS
1.82mQ / 2.80mQ

BOLLERS
BD-200 / BD-300
SH-200 / SH-300 / SH-500

SOLAR CONTROL UNIT
AR-21CS

PIPES
DN20



MAGICSUN

Invest in the **Future** with the **MONOBLOC PANEL** Natural Circulation

AR150L-316 Inox
AR150L-304 Inox
AR200L-316 Inox
AR200L-304 Inox

Inox 316 is the preferred choice for applications requiring greater durability and superior performance in aggressive, corrosive environments and offers additional protection against weathering and salt, justifying its higher cost. While **Inox 304** is suitable for most general applications.

Elegant design | Rapid recovery investment | Quick and easy installation | High performance

High Performance, Energy Efficiency and Elegant Design

Discover the **MAGICSUN** panel, the all-in-one device designed to revolutionise domestic hot water production by combining high performance, refined aesthetics and quick installation.

Main Benefits

The elegant and modern design not only blends perfectly into any environment, but is also a practical and efficient solution. With our panel, you can enjoy a quick payback on your investment, thanks to the contribution of the Conto Termico 2.0 (DM 16/02/2016), which incentivises interventions to increase energy efficiency and the production of thermal energy from renewable sources for small installations.

DETAILED FEATURES

The **MAGICSUN** panel has a number of innovative features that optimise performance and functionality.

Advanced Heat Transfer Technology: Thanks to the use of materials with high thermal conductivity, panel ensures maximum efficiency in heat transfer, allowing reduced waiting times for hot water and guaranteeing constant performance even in adverse environmental conditions.

Electronic Control Unit and Integrative Heating Element Kit: The system is equipped with a kit consisting of:

- 1.5 kW, 220 V/50 Hz electric heater for integration.
- Control unit equipped with a display with thermostat function and an output for heater control (+ antifreeze function).
- Temperature probe with thermowell.

NOTE: the electric heater performs its supplementary function by bringing water (at the temperature set in the control unit) only to the water contained in the storage pipe

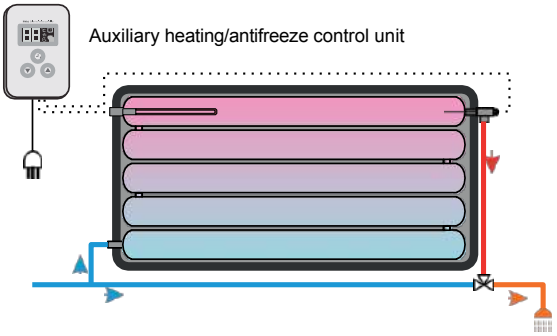
Eco-compatibility: Designed with a focus on sustainability, the panel uses renewable energy sources and ensures low carbon emissions during its operation. This not only contributes to the protection of the environment, but also meets current energy efficiency regulations.

Compact and Versatile Design**:** small size and compact design allow easy installation in tight spaces, making it ideal for homes, offices and small businesses. The elegant finish blends harmoniously into any architectural context.

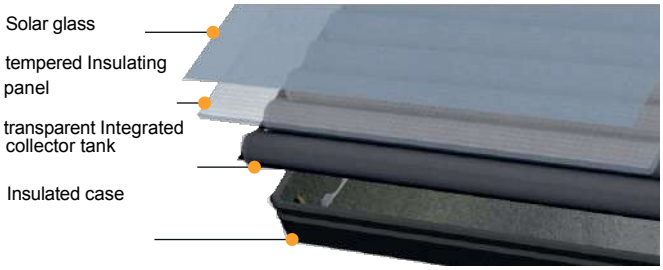
Reliability and Durability: Built to stand the test of time, the MAGICSUN panel is made of materials, ensuring long life and low maintenance requirements. Due to stringent manufacturing standards, each unit is tested to ensure reliability even under critical operating conditions.

Easy Installation and Maintenance: The panel comes complete with everything needed for installation, reducing installation time and costs. Detailed instructions allow for easy installation, and our after-sales service provides support for those in need.

PRINCIPLE OF OPERATION

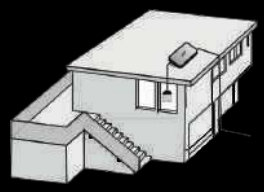


TOP-QUALITY MATERIALS

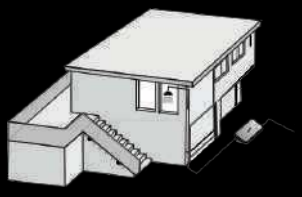


Types of INSTALLATION

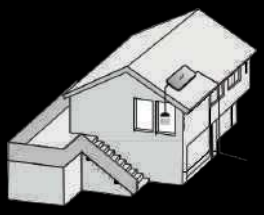
The **MAGICSUN** panel is extremely versatile and can be installed in different configurations:



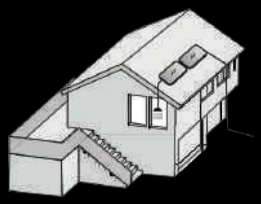
Flat roof installation



Ground installation



Installation on pitched roof



multiple connection

Flat Roof Installation: This configuration is frequently used in urban settings, where ground space is limited. The panels can be mounted on a sloping support structure, optimising the angle of exposure to the sun. This method improves the efficiency of thermal output by maximising the absorption of solar radiation throughout the day.

Ground Installation: Perfect for environments where vertical surfaces or roofs cannot be used, this configuration involves placing the panels directly on the ground. It is ideal for large installations or agricultural applications, where hot water can be collected in combination with heating systems for greenhouses or farms.

Installation on Sloping Roofs: The panels can be integrated with existing structures on sloping roofs, ensuring a particularly aesthetic and functional installation.

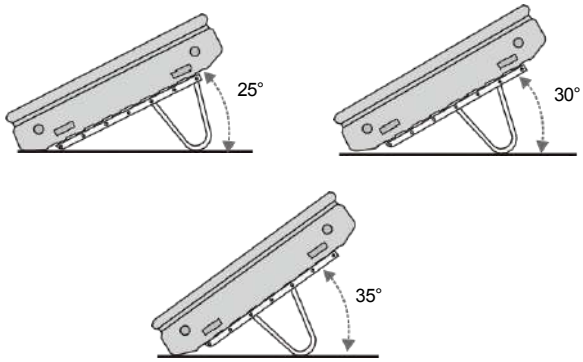
This type utilises the natural slope to facilitate water run-off and improve the efficiency of heat collection. It is essential to assess the orientation and inclination of the roof to ensure maximum yield.

Parallel Connection: This configuration allows several panels to be connected in series or parallel increase the overall capacity of the system. Parallel connection is advantageous in situations where you want to optimise the flow of hot water from multiple sources without significantly increasing pressure losses.

This approach allows the system to be modularised, facilitating different needs for domestic hot water production in residential and commercial settings.

These different types of installation not only extend the operational versatility of the **MAGICSUN** *panel, but also ensure optimal performance according to the specific needs of the site and the customer.*

Choose a suitable corner for installation



Innovation and Sustainability

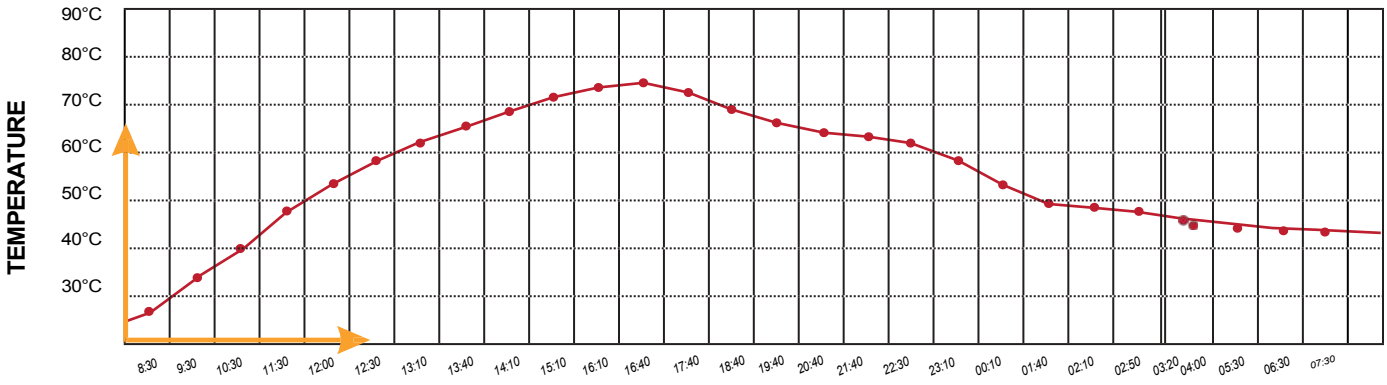
Our commitment to the environment is reflected in our use of state-of-the-art technology to environmental impact and energy efficiency. With the **MAGIC- SUN** panel, you not only save energy, but also contribute to a more sustainable future.

Rely on ARYA's excellence and innovation for an unrivalled hot water experience. Invest in the future with the **MAGICSUN** *panel.*

TECHNICAL DATA	AR150L	AR300L
GROSS AREA	1.905m²	1.905m²*2
DIMENSIONS	2140x890x226mm	2140 (*2)x890x226mm
EMPTY WEIGHT	42kgs	42kgs*2
CAPACITIES	150L	150L
MAX. OPERATING TEMPERATURE	85°C	85°C
MAX. OPERATING PRESSURE	4 bar	4 bar
ELECTRICAL RESISTANCE	1.5KW	1.5KW
CONNECTIONS	2x3/4" F	2x3/4" F
INSTALLATION	Flat roof/ pitched roof	Flat roof/ pitched roof
USERS		

TECHNICAL DATA	AR200L	AR400L
GROSS AREA	2.499m²	2.499m²*2
DIMENSIONS	2100x1190x220mm	2100 (*2)x1190x220mm
EMPTY WEIGHT	60kgs	60kgs*2
CAPACITIES	200L	400L
MAX. OPERATING TEMPERATURE	85°C	85°C
MAX. OPERATING PRESSURE	4 bar	4 bar
ELECTRICAL RESISTANCE	1.5KW	1.5KW
CONNECTIONS	2x3/4" F	2x3/4" F
INSTALLATION	Flat roof/ pitched roof	Flat roof/ pitched roof
USERS		

THERMAL PERFORMANCE



NATURALSUN

Natural Circulation Kit

AR200CN AR300CN

Solar Keymark certified Factory Made system
The quality of the KIT is guaranteed by the Solar Keymark certification, an official recognition of compliance with international performance and safety standards. This guarantee gives users the certainty of a product that complies with industry regulations.

NATURALSUN

NATURALSUN

thanks to integration of advanced technologies that optimise heat transfer. The kit's components are designed to minimise energy losses, allowing water to be heated quickly and evenly.

FEATURES AND BENEFITS

Rapid Hot Water Supply

You no longer need to wait to enjoy a hot shower. With NATURALSUN, hot water is available almost instantly, significantly improving daily comfort and reducing waiting times.

Pressurised and Safe System

Thanks to the pressurised system, performance is optimal at all times. In addition, the high-performance manifold ensures safe operation even under the most extreme conditions.

Summer efficiency without overheating

One of the main advantages of this kit is its ability to avoid overheating problems during the summer season.

highly professional solution not only contributes to significant savings in energy costs, but also ensures a reduction in environmental impact, making the kit a sustainable choice for water heating.

This means that you can enjoy an efficient and reliable system all year round without interruption.

Long Life and Low Maintenance Costs NATURALSUN is built to last. In addition to the robustness of the materials used, the low maintenance costs will save you money in the long run, ensuring a smart and sustainable investment.

Guaranteed water purity

The separate circulation of heating water and hot water used daily is a key feature that ensures the purity of the water you use every day. This innovative system gives you clean and safe water at all times.

Simple and efficient system

The design of NATURALSUN is conceived for easy installation and maintenance. Thanks to its intuitive configuration and pre-assembled components, the user can easily implement the system, minimising installation time and costs.

Weatherproof covering

Every component of NATURALSUN is designed to withstand adverse weather conditions.

The cover is made of high-quality materials that protect the system from damage caused by rain, snow and UV rays, ensuring a long service life and optimal performance over time.

Immersion heater and magnesium anode integrated in the boiler

The system is integrated with an electric immersion heater. This feature provides an additional hot water booster during periods of low solar radiation, ensuring a constant and reliable supply of hot water in all weather conditions.

The magnesium anode is a key component for the protection and longevity of the water heating system and plays a crucial role in preventing corrosion of the tank and other metal parts in contact with water.

ECONOMIC SAVINGS

NATURALSUN is a cost-effective choice in several . , by solar energy, a completely free and renewable resource, the system drastically reduces the costs of the electricity or fossil fuels needed to heat the water.

This results in a considerable reduction of monthly energy costs, making the kit an investment that pays for itself over time.

In addition, due to the high efficiency of the system, users can access the incentives provided by the system, thus eliminating all initial investment costs.

Versatile Installation

The installation of NATURALSUN is designed to be extremely versatile, thanks to its universal fixing system. This feature allows the kit to be adapted to a variety of configurations and building types, whether residential or commercial. Whether the roof is flat or pitched, the fastening system allows for simple and intuitive assembly, reducing installation time and ensuring long-lasting solidity. With this approach, installation is not only efficient, but also accessible for different types of users, making the NATURAL CIRCULATION KIT an ideal choice for those seeking flexible and reliable solutions.

Sloping Roofs

For pitched roofs, installation requires careful consideration the slope of the plane and orientation with respect to the sunlight source. The panels are mounted to follow the slope of the roof, optimising the capture of solar energy throughout the year. It is also essential to evaluate the drainage system, as the geometry of the roof will influence rainwater collection and runoff. Fixing accessories must be chosen to ensure that the panels remain securely in place, while allowing thermal expansion and material movement.

Flat Roofs

On flat roofs, the system can be installed directly on the surface, using specially designed supports to optimise the inclination of the panels, thus mas- simulating exposure to the sun and improving the efficiency of water heatingIt is essential to adopt appropriate fixing systems to ensure the stability of the kit, taking into account local weather conditions and wind load. Furthermore, the horizontal arrangement of the panels allows for a harmonious integration with the aesthetics of the roof, minimising visual impact.

expenses incurred for energy efficiency, making the investment more affordable. Deduction percentages can vary depending on the type of intervention and the date of realisation, with a particular focus on projects that demonstrate a significant improvement in the energy efficiency and environmental sustainability of buildings.

In addition, there is the possibility of accessing state or regional subsidies, dedicated to promoting the use of renewable energies. These subsidies can supplement tax deductions and offer direct financial support for the implementation of systems such as NATURALSUN, thus helping to further reduce installation costs and incentivising owners to switch to greener solutions.

It is essential to find out from the competent bodies about the availability of these incentives and to follow the correct procedures to ensure access to them.

Conclusion

NATURALSUN is the ideal solution for anyone looking for an efficient, safe and easy-to-install water heating system. With its numerous advantages and advanced technology, it represents a step towards superior home comfort and responsible use of energy resources. Choose the best for your home or business, choose NATURALSUN.

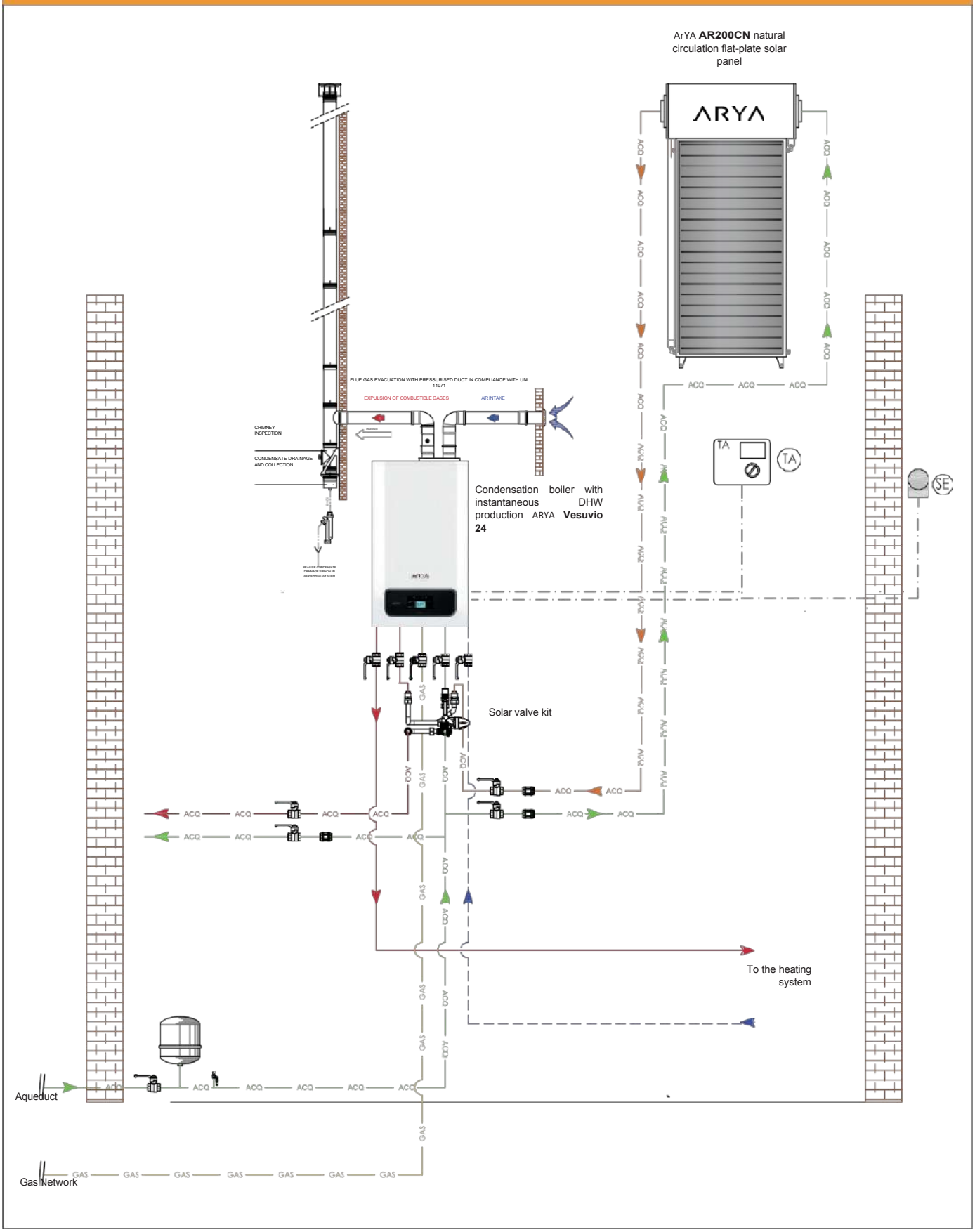
PLANT COMPOSITION:		
	AR200CN	It consists : - No. 1 2.5 m² solar collector - Solar water heater 200lt natural circulation - Flat roof/sloping roof frame for 1 collector - Hydraulic connection kit - Supplementary electrical resistance
	AR300CN	It consists : - No. 2 solar collectors of 2.0 m² - Solar cylinder 300lt natural circulation - Flat roof/sloping roof frame for 1 collector - Hydraulic connection kit - Supplementary electrical resistance

SELECTION GUIDE: NATURAL CIRCULATION SOLUTIONS

			AR200CN	AR300CN
Natural circulation solar solutions	Type of natural circulation solution		Solution with 1 collector and 200 litre storage tank Universal installation flat and pitched roofs	Solution with 2 collectors and 300 litre storage tank Universal installation on flat and pitched roofs
	Needs covered geographical area	North - Central North	1–2	2–5
		South - Central South	1–3	3–6
	Number and type of collectors		 1 x 2.5 m² solar collector	 No. 2 solar collectors of 2.0 m²
	System			

TECHNICAL DATA	AR200CN	AR300CN
NOMINAL OPERATING PRESSURE	10bar	10bar
AREA OF REFERENCE	2.5m²	2*2m²
GLASS THICKNESS	3.2mm	3.2mm
GLASS GASKET	EPDM	EPDM
SOLAR TRANSMITTANCE	92%	92%
ABSORBER MATERIAL	Blue cladding	Blue cladding
ABSORPTION	95%	95%
DIMENSION	2000*1250*80mm	2000*1250*80mm*2
TANK DIMENSIONS	Ø520mm*1580mm	Ø520mm*1580mm
TANK WEIGHT	90kg	160kg
INNER TANK LINING	Certified Enamel	Certified Enamel
INNER TANK DIAMETER/THICKNESS	φ426/2.5±0.1mm	φ480/2.5±0.1mm
TANK INSULATION	Polyurethane / 50mm	Polyurethane / 50mm
EXTERNAL TANK MATERIAL	Painted Steel	Painted Steel
EXTERNAL TANK DIAMETER/THICKNESS	φ520/0.4mm	φ580/0.4mm
BRACKET MATERIAL/THICKNESS	Galvanised sheet metal/1.5 mm	Galvanised sheet metal/1.5 mm
BRACKET INCLINATION	18-35°	18-35°
VALVE TEMP./PRESSURE TP	85°C / 6bar	85°C / 6bar
ELECTRIC HEATING	2000W	2000W

VESUVIO 24 CONDENSING BOILER AND AR200CN 2.5M² SYSTEM AND 200LT NATURAL CIRCULATION BOILER



FORCESUN

Forced Circulation Solar Collectors

AR1.82CF AR2.80CF

110% 65% 50% 2.0 CONTO TERMICO

Solar Keymark certified Factory Made system
The quality of the KIT is guaranteed by the Solar Keymark certification, an official recognition of compliance with international performance and safety standards. This guarantee offers users the certainty of a product that complies with industry regulations.

uses pumps to circulate the heat transfer fluid through solar collectors. Unlike natural circulation systems, which rely on convection, forced circulation offers superior temperature control and higher efficiency.

OPERATION

The operation of a **forced circulation** solar thermal system is based on key components that work together to optimise heat transfer. The FORCESUN solar collectors, strategically positioned to maximise solar exposure, absorb thermal energy and transfer it to the heat transfer fluid, which can be water or a specific antifreeze. Pumps, controlled by electronic control units, ensure continuous circulation of the fluid through the system, allowing precise temperature control.

A thermal storage tank, or boiler, serves as temporary storage for heated water, maintaining heat availability even during periods of low solar radiation.

and even heat distribution can be achieved. This translates into greater energy efficiency and a more reliable heating system capable of meeting specific temperature requirements.

Temperature sensors located both on the collectors and in the storage tank provide real-time data to the controllers to regulate the operation of the pumps, thereby optimising the energy efficiency of the system.

In addition, advanced systems can include safety mechanisms such as pressure release valves and overheating protection systems, ensuring safe and reliable operation.

Integration with auxiliary heating systems, such as gas boilers or heat pumps, makes it possible to maintain service continuity even in unfavourable climatic conditions, without compromising user comfort.

High Energy Yields

The energy efficiency of FORCESUN collectors is improved by an increased absorption surface combined with a thinner frame. This configuration maximises efficiency, allowing superior performance even in variable solar radiation conditions.

Elegant and Functional Design

The design of the FORCESUN collectors has been studied with special attention aesthetics, using a uniformity of colour between glass, profiles and cladding. This approach ensures perfect visual integration on any type of roof, making them ideal for modern, aesthetically pleasing architectural projects.

Reliable Compression Connections

Brass compression-fittings ensure a durable seal and no solar fluid leakage.

The standard distance of 55 mm between collectors also facilitates series connection, enhancing the modularity of the system.

Solar Glass Roofing

FORCESUN collectors are equipped with a 3.2 mm thick, tempered, low-iron ESG solar single-glazing cover. This type of glass is highly resistant to hail, ensuring longevity and protection against weathering.

High Performance Absorber

The absorber consists of a laser-welded aluminium plate with an 8 mm diameter copper meander coil, treated with a highly selective coating. This combination ensures optimal heat absorption efficiency, increasing the overall efficiency of the solar thermal system.

Installation flexibility

Due to their design, the collectors can be installed either above or below the tiles of a flat or pitched roof. This flexibility allows for a wide variety of mounting solutions, adapting to the specific requirements of the installation site.

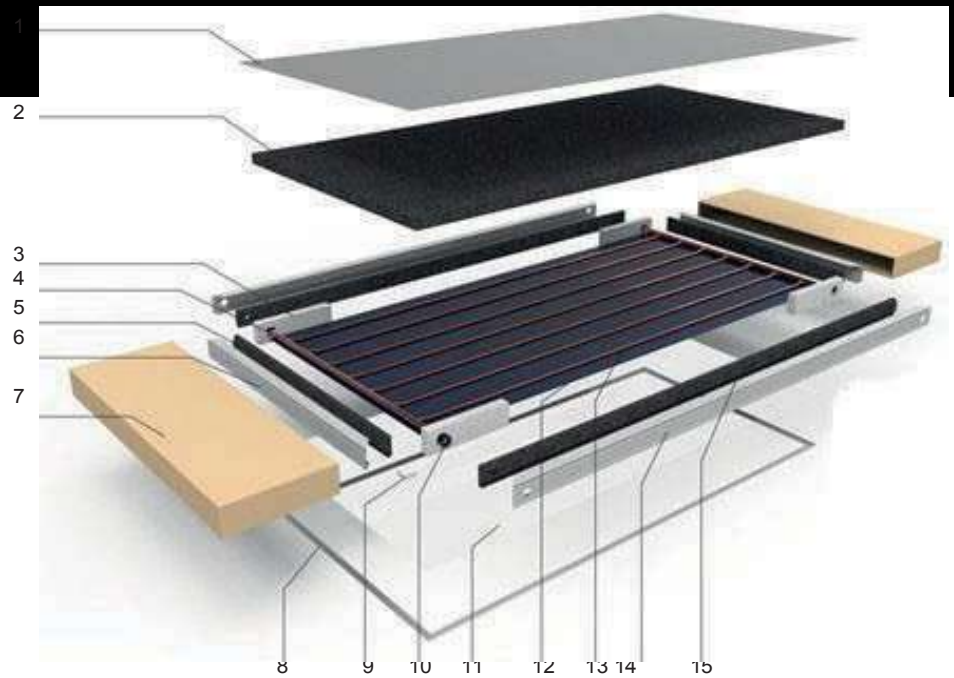
Availability of Installation on Different Roof Types The installation of a forced circulation solar thermal system is compatible with wide range of roof types, making it a versatile solution for residential, commercial and industrial buildings. Solar collectors can be mounted on pitched, flat and even irregular roofs, thanks to the use of adaptable support structures that provide the optimal tilt and orientation to maximise solar radiation absorption.

On pitched roofs, FORCESUN collectors can be installed parallel to the roof surface, using brackets and supports to ensure the stability and safety of the system. In the case of flat roofs, inclined support structures are used to set the collectors at the right angle to optimise solar exposure throughout the year.

For irregular roofs or roofs with complex geometric shapes, customised solutions can be designed using special frames and brackets, allowing for harmonious integration with the building's architecture. Pitched roofs also feature dedicated solutions, with mounting options that vary according to the orientation and inclination of the pitch.

The technological and engineering aspect is not the only one to consider; aesthetic impact also plays an important role. Many manufacturers offer solar collectors with elegant and discreet designs, capable of integrating with architectural profile of the building without compromising aesthetics.

STRUCTURE AND TECHNICAL PARAMETERS OF THE FLAT-PLATE SOLAR COLLECTOR



4. Collector tube
5. Insulation layer on the frame
6. Side frame
7. Packaging
8. Upper gasket 9. Corner connection 10. Rubber sealing ring
11. Low-iron textured tempered glass
12. Absorber plate
13. Absorber Tube

TECHNICAL DATA		AR1.82CF	AR2.80CF
GROSS LENGTH / WIDTH / HEIGHT	mm	2000*1000*95	2000*1500*95
GROSS AREA	m²	2	3
OPENING LENGTH / WIDTH / NUMBER	mm	1951*949	1951*1449
OPENING AREA	m²	1.85	2.826
ABSORBER LENGTH WIDTH / THICKNESS	mm	1951*949*0.4	1951*1449*0.4
ABSORBER AREA	m²	1.85	2.826
NET WEIGHT	Kg	35	52
FLUID CONTENT	L	1.6	2.5
COVERAGE LENGTH / WIDTH / THICKNESS	mm	1976*976*3.2	1976*1474*3.2
CONVERSION FACTOR BASED ON ABSORBER AREA	($_{AA}$)	0.805	0.783
HEAT TRANSFER COEFFICIENT $_{A1A}$	W/(m²K)	3.555	3.716
TEMP. DEPENDENT HEAT TRANSFER COEFFICIENT $_{A2A}$	W/(m²K²)	0.029	0.009
EFFICIENCY (η0) BASED ON GROSS AREA		0.776	
COVERING MATERIAL		Ultra-white tempered glass with low iron content	
SOLAR TRANSMITTANCE OF GLASS ROOFING	%	≥91,5	
ABSORBER MATERIAL		Aluminium	
SOLAR ABSORPTION OF THE ABSORBER [%].	%	≥92	
HEMISPHERIC EMITTANCE OF THE ABSORBER [%].	%	≤10	
ABSORBER COATING		Blue coating	
HEADER PIPE MATERIAL		Copper tube TP2	
OUTER DIAMETER/HEADER PIPE THICKNESS	mm	φ22*0.6	
UPRIGHT TUBE MATERIAL		Copper tube TP2	
LENGTH / OUTER DIAMETER / THICKNESS OF UPRIGHT TUBE	mm	φ10*0.7	
NUMBER OF UPRIGHTS		9	14
DISTANCE BETWEEN POSTS	mm	93	95.5
CONNECTOR DIMENSIONS	mm	φ22	φ22
THERMAL INSULATION MATERIAL (REAR)		Glass wool and PUR	
THICKNESS THERMAL INSULATION (REAR)	mm	46	
THERMAL INSULATION MATERIAL (SIDE)		Glass wool	
THICKNESS THERMAL INSULATION (SIDE)	mm	20	
SIDE CASING MATERIAL		6063-T5	
REAR CASING MATERIAL		Aluminised zinc plate	
SEALING MATERIAL		Structural adhesive	
MAXIMUM OPERATING PRESSURE [KPA]		800	
MAXIMUM OPERATING TEMPERATURE (°C)		186	
RECOMMENDED HEAT TRANSFER MEDIUM		Deionised water/Antifreeze fluid	

Energy Revolution with
SOLAR TANKS

Double Serpentine
BD-200
BD-300
Double Serpentine
Optimised for Heat Pumps
SH-200
SH-300
SH-500

What is a Solar Tank?
A solar tank is a device designed to store thermal energy generated by solar panels. This type of tank allows heat to be stored during daylight hours, when solar radiation is at its highest, and then used at night or during periods of low solar radiation. Solar storage tanks are known for their efficiency and ability to integrate with various energy systems.

Energy Efficiency
Solar tanks offer a significant improvement in energy efficiency. This translates into reduced operating costs and a quick return on investment. Companies can benefit from a system that makes maximum of solar energy, reducing dependence on traditional energy sources.

Environmental Sustainability
Using a solar tank means actively contributing to the reduction of CO2 emissions.

This makes solar tanks an environmentally friendly choice that helps companies achieve their sustainability goals and improve their environmental reputation.

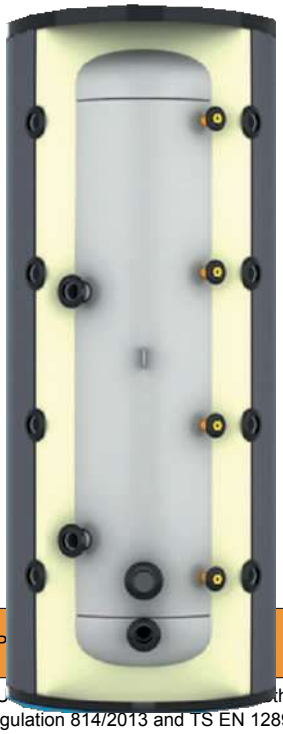
Versatility and Integration
Solar storage tanks are designed to integrate easily with various energy systems, including heat pump systems. This versatility makes them an excellent choice for a wide range of industrial and commercial applications.

DIFFERENCE BETWEEN A STANDARD TANK AND A TANK OPTIMISED FOR PDC

Storage Capacity
Optimised heat pump tanks have a higher storage capacity than standard tanks. This allows more thermal energy to be stored, ensuring a constant supply even during peak demand periods. Thermal Exchange Efficiency
The main difference between a standard tank and an optimised heat pump tank lies in the efficiency of heat exchange. Optimised tanks are equipped advanced heat exchangers that improve the transmission of energy between the tank and the heat pump, increasing the overall efficiency of the system.

Technological Compatibility
Optimised heat pump reservoirs are specifically designed to be compatible with these advanced technologies. This means they can operate at higher temperatures and pressures, ensuring optimal performance and a long service life.

The Importance of the Right Choice
When it comes to choosing between a standard and an optimised heat pump tank, it is essential to consider the specific energy needs of your company. An optimised tank may offer significant benefits in terms of efficiency and sustainability, but may require a higher initial investment.



LINING

Importance of Internal Tank Coating

The inner coating of solar water storage tanks plays a crucial role in their durability and efficiency. A high-quality coating prevents corrosion, protecting the structural integrity of the tank and ensuring that the water remains clean and safe for domestic use. Materials such as enamelled glass or stainless steel are commonly used for their excellent anti-corrosive properties and resistance to high temperatures. In addition, a well-designed lining can significantly improve the thermal performance of the tank, minimising heat loss and maximising the energy efficiency of the solar system. In summary, the choice of inner lining is crucial to optimise the functionality and longevity of solar storage tanks.

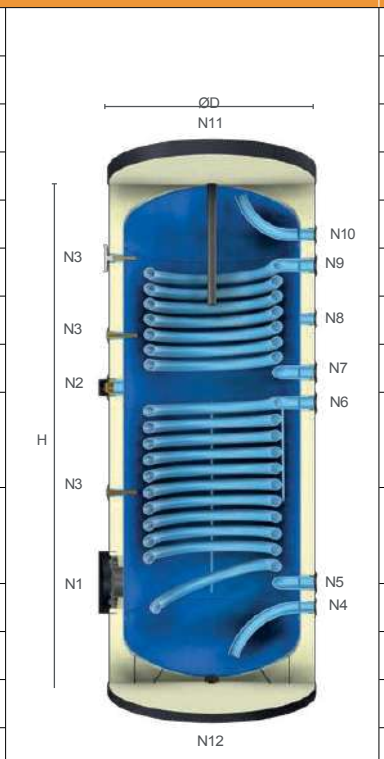
OPS: OP		BD-200 / BD-300
INSULATION	PU thane in accordance with EU ErP regulation 814/2013 and TS EN 12897 standards	STD/50 mm
COATING	Blueshell - Heat-insulating polyethylene cover	STD
EQUIPMENT	Thermometer (0°C- 1 20°C)	STD/Ø63
	Well s wave	STD/½" 2 pieces
	Cleaning and control flange	STD/4"
	Electrical resistance	OPS/1½"
CATHODIC PROTECTION	Magnesium anode	STD
	Electronic anode	OPS

STD: Standard equipment. OPS: OPTIONAL accessories		SH-200 / SH-300 / SH-500
INSULATION	PU- 42 kg/sqm HCFC-free polyurethane in accordance with EU ErP regulation 814/2013 and TS EN 12897 standards	STD/50 mm
COATING	Blueshell - Heat-insulating polyethylene cover	STD
EQUIPMENT	Thermometer (0°C- 1 20°C)	STD/Ø63
	Well s wave	STD/½" 3 pieces
	Cleaning and control flange	STD/4"
	Electrical resistance	OPS/1½"
CATHODIC PROTECTION	Magnesium anode	STD
	Electronic anode	OPS

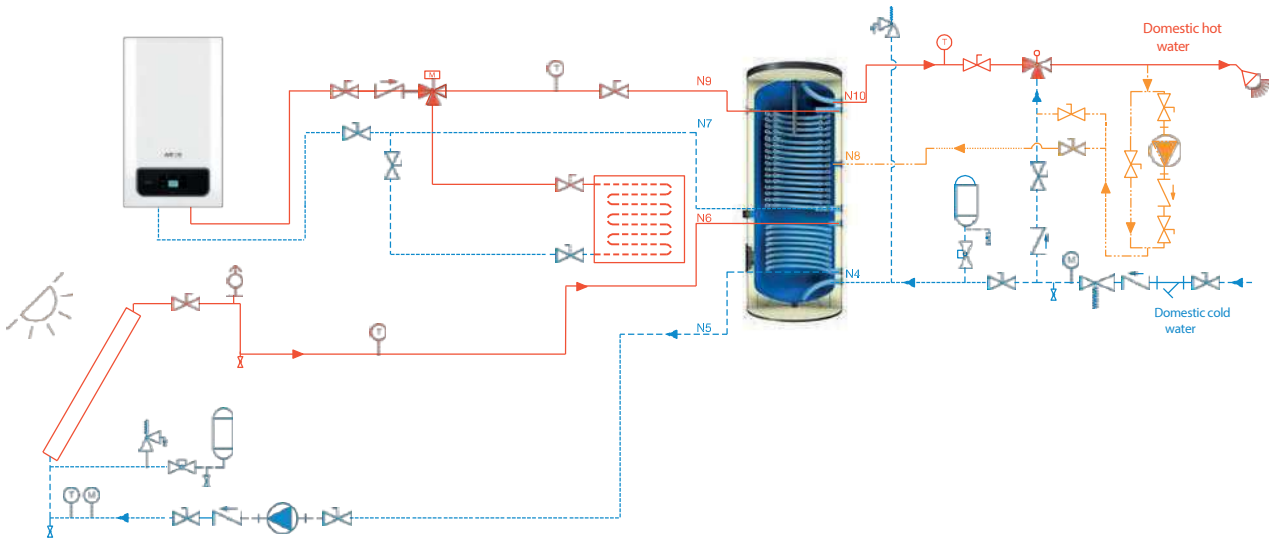
Volume **200L-300L**
Upper heat exchanger Maximum heating output **41kW/h**
Lower heat exchanger Maximum heating output **55kW/h**

Maximum solar collector area **29 m2**
Maximum operating temperature of the heat exchanger **110°C**
Maximum operating pressure of heat exchanger **10 bar**

Maximum domestic hot water operating temperature **95°C** Maximum domestic hot water operating pressure **6 bar / 10 bar**
The inside surface of the tank is enamelled according to DIN 4753-3.

TECHNICAL DATA		CODE	UNIT	BD-200	BD-300
CAPACITIES		V	lt	200	300
TYPE AND THICKNESS OF INSULATION		i	mm	PU/50	PU/50
DIAMETER		ØD	mm	580	580
HEIGHT		H	mm	1340	1860
CLEANING AND CONTROL FLANGE		N1	poll.	4"	4"
CONNECTION OF THE ELECTRICAL RESISTANCE		N2	poll.	1½"	1½"
THERMOMETER AND SENSOR CONNECTION		N3	poll.	½"	½"
COLD WATER INLET CONNECTION		N4	poll.	¾"	1"
INPUT/OUTPUT CONNECTIONS OF THE LOWER HEAT EXCHANGER (COIL)		N5-N6	poll.	1¼"	1¼"
INPUT/OUTPUT CONNECTIONS OF THE UPPER HEAT EXCHANGER (COIL)		N7-N9	poll.	1¼"	1¼"
ACS RECIRCULATION CONNECTION		N8	poll.	¾"	¾"
ACS OUTPUT CONNECTION		N10	poll.	¾"	1"
MAGNESIUM ANODE CONNECTION		N11	poll.	1¼"	1¼"
BLIND CONNECTION		N12	poll.	1¼"	1¼"
GROSS WEIGHT		G	kg	87	104
45° TILT HEIGHT		R	mm	1460	1950

MODEL INSTALLATION DIAGRAM

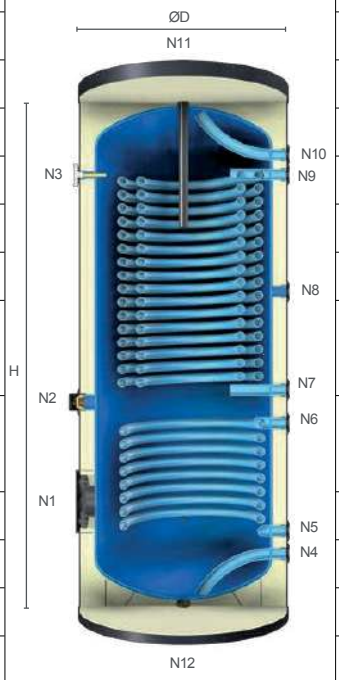


SOLAR TANKS

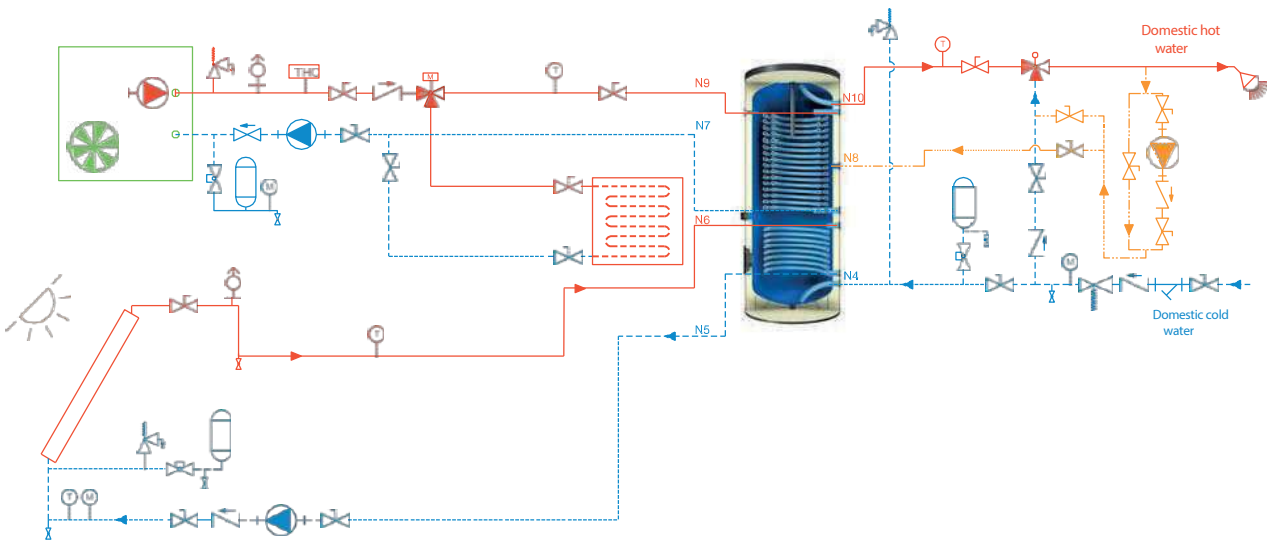
Volume **200L-300L-500L**
Top heat exchanger Maximum heating capacity **161kW/h**
Lower heat exchanger Maximum heating output **55kW/h**

Maximum solar collector area **10 m2**
Maximum operating temperature of the heat exchanger **110°C**
Maximum operating pressure of heat exchanger **10 bar**

Maximum domestic hot water operating temperature **95°C** Maximum domestic hot water operating pressure **10 bar**
The inside surface of the tank is enamelled according to DIN 4753-3.

TECHNICAL DATA		CODE	UNIT	SH-200	SH-300	SH-500
CAPACITIES		V	lt	200	300	500
TYPE AND THICKNESS OF INSULATION		i	mm	PU/50	PU/50	PU/50
DIAMETER		ØD	mm	580	580	740
HEIGHT		H	mm	1340	1860	1845
CLEANING AND CONTROL FLANGE		N1	poll.	4"	4"	4"
CONNECTION OF THE ELECTRICAL RESISTANCE		N2	poll.	1½"	1½"	1½"
THERMOMETER AND SENSOR CONNECTION		N3	poll.	½"	½"	½"
COLD WATER INLET CONNECTION		N4	poll.	1"	1"	1"
INPUT/OUTPUT CONNECTIONS OF THE LOWER HEAT EXCHANGER (COIL)		N5-N6	poll.	1"	1"	1"
INPUT/OUTPUT CONNECTIONS OF THE UPPER HEAT EXCHANGER (COIL)		N7-N9	poll.	1¼"	1¼"	1¼"
ACS RECIRCULATION CONNECTION		N8	poll.	1"	1"	1"
ACS OUTPUT CONNECTION		N10	poll.	1"	1"	1"
MAGNESIUM ANODE CONNECTION		N11	poll.	1¼"	1¼"	1¼"
BLIND CONNECTION		N12	poll.	1¼"	1¼"	1¼"
GROSS WEIGHT		G	kg	113	156	165
45° TILT HEIGHT		R	mm	1460	1950	1990

MODEL INSTALLATION DIAGRAM



SOLAR CONTROL UNIT

AR21-CS

DISPLAY DIGITAL

BITUBO

Discover solar energy revolution with the AR21-CS Solar Power Unit

In a world where sustainable energy has become a necessity, the AR21-CS solar controller emerges as a state-of-the-art solution for those seeking to optimise the use of solar energy. Not only does this controller represent a major breakthrough in solar technology, it also offers a number of advantages that make it indispensable for true solar technology enthusiasts.

Advanced Digital Display

In addition to the bitubo technology, the AR21-CS is equipped with a state-of-the-art digital display. This display not only offers a clear and immediate visualisation of operating data, but is also extremely intuitive to use. Users can easily monitor system performance, view real-time temperatures and access detailed information on the status of various components. The digital display of the AR21-CS is designed to provide precise data to help optimise the operation of the solar system. For example, it is possible to set alerts for excessively high or low temperatures, receive notifications about anomalies, and access historical performance graphs. This level of control allows users to take timely action to solve any problems and keep the system running at peak efficiency.

Another important aspect of the digital display is its user-friendliness. Even those unfamiliar with solar systems can easily navigate through the various menus and settings, thanks to a clear and well-designed user interface. This makes the AR21-CS accessible to a wide range of users, from experienced technicians to homeowners interested in improving their solar energy management.

The Bitubo Technology of the AR21-CS Control Unit

One of the distinguishing features of the AR21-CS solar controller is its twin-tube technology. This advanced system enables more efficient handling of thermal fluids, significantly improving heat transfer. With two separate pipes for inlet and outlet of the fluids, the controller ensures a continuous and steady flow, reducing energy losses and increasing the overall yield of the system.

The twin-tube configuration is particularly advantageous in large plants, where precise fluid control is crucial. This technology facilitates the maintenance of desired temperatures, contributing to a more efficient utilisation collected solar energy. In addition, the AR21-CS's twin-tube design reduces the possibility of air bubble formation, a common problem in one-piece systems that can compromise performance.

A further advantage of twin-tube technology is its ability to adapt to different system configurations. Whether you are working with a domestic or industrial solar system, the AR21-CS offers the flexibility and reliability needed to ensure optimal performance in every situation.

SOLAR PUMP STATION WITH INTEGRATED CONTROLLER

Integrated Controller

The AR21-CS solar pump station is equipped with an integrated controller for optimal thermal flow management within the solar system. This controller is designed with advanced algorithms to constantly monitor operating conditions, adjusting fluid flow in real time to ensure maximum energy efficiency. Its real-time monitoring and control capabilities help avoid wasted energy, resulting in improved overall system performance.

Outstanding design

The design of the AR21-CS solar pump station is not only functional but also aesthetically pleasing and designed easy installation and maintenance. The layout of the components has been optimised to ensure quick and easy access, reducing downtime during maintenance. Every element of the station has been designed to minimise clutter, allowing a neat and tidy installation, even in the tightest spaces.

Safety Group with Safety Valve

Safety is a priority in the design of the AR21-CS solar pump station. The integrated safety unit is equipped with a safety valve that protects the entire system from potentially damaging overpressures. This device is essential for preventing damage to the station and other components of the solar system, while ensuring safe and reliable operation. In addition, the safety assembly is designed to withstand extreme conditions, offering robust and long-lasting protection.

High Quality Enclosure for Heat Loss Reduction

With regard to energy conservation, the invo- lucy of the AR21-CS solar pump station is made of high-quality materials that improve thermal insulation. This significantly heat loss, helping to maintain system efficiency. The casing is also designed to be weatherproof, ensuring that performance is not compromised even in the harshest weather conditions.

Controlled flow rate

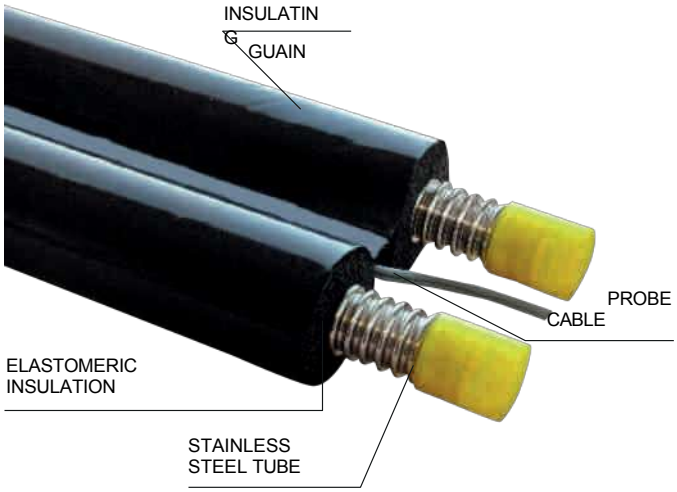
The ability to control fluid flow is another distinguishing feature of the AR21-CS solar pump station. Thanks to highly accurate flow sensors and advanced control software, the flow rate can be optimally adjusted based on operational needs.

DIMENSIONS

Height (with insulation): **450mm** Width (with insulation): **300mm** Depth (with insulation): **158mm** Centre distance: **1600mm**

PIPES

Inox Elastomeric Pipes



Corrugated **stainless steel pipes** coupled forward + return, constitute a complete insulated bi-tube system for solar installations. Composed of double pipes with a high flexibility derived from corrugation, made of AISI 316L austenitic stainless steel.

The insulation is a mat with high thermal resistance that ensures limited heat loss while having a limited thickness. The pipes are covered with a special protective sheath with high chemical and mechanical resistance. Its main characteristic its ease of installation and speed of execution compared to traditional rigid metal pipes.

DESCRIPTION

Roll of coupled stainless steel AISI316L pipe pre-insulated with 13 mm closed-cell elastomer foam for solar systems thermal conductivity < 0.038 W/(mK), working range -40°C...+150°C and for short periods up to 175°C, fire reaction class according to DIN 4102-1 or EN 13501-1: self-extinguishing (does not drip) and UV-resistant, protected by a plastic film < 0.15 mm to withstand mechanical actions. It is complete with two-core electrical cable with silicone sheathing for the probe. The supply and return lines can be separated easily without damaging the insulation: the pipes are insulated individually.

TECHNICAL CHARACTERISTICS		
TEMPERATURE USE	-40 ÷+150 °C	
MAX. TEMPERATURE	+ 175 °C	
THERMAL CONDUCTIVITY = 0 °C	< 0.038 W/mK	DIN 52613
RESISTANCE TO VAPOUR DIFFUSION	> 3000	DIN 52615
INSULATION	13 mm	
AMOUNT OF CONTRACTION	1,5	ASTM D 1056
REACTION TO FIRE	Class 0, Class 1	DIN 4102-1 or EN 13501-1
UV RESISTANCE	Excellent	ASTM D 518
OZONE RESISTANCE	Good	
RESISTANCE TO OILS AND GREASES	Excellent	ASTM D 471
WEATHERING RESISTANCE	Excellent	ASTM D 518
FLEXIBILITY	Excellent	
NOISE REDUCTION	Higher than 30 dB	DIN 4109
SMELL	Neutral	
RESISTANCE TO FUNGI AND PARASITES	Excellent	
COLOUR	Black	

PIPE DN	Ø d1	Ø d2	TOLERANCE ± mm	THICKNESS	PN bar	SURFACE m2/mt	CONTENT l/mt
20	20.9	26.4	0.2	0.18	10	0.116	0.45

CONNECTION KIT	
PILOT BATTERY FITTING KIT	
FITTING KIT FOR INTERMEDIATE CONNECTION	

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