



Aqua Plus CATALOG 0729



Catalog contents may be updated without prior notice due to version iterations. Please stay tuned for updates.



QUANTUM SOLAR

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SOLAR PUMP INVERTER
Aqua Plus

Book-type Solar Pump Inverter

0.75 ~ 500kW



SOLAR PUMP INVERTER

ABOUT

The data listed on this page was collected in NOV. 2025.

Quantum Solar is a total energy solution manufacturer serving customers worldwide. Headquartered in Amsterdam, the Netherlands, the company is a dedicated solar energy enterprise that operates around the clock to support global customers across different time zones.

Backed by 5 manufacturing factories strategically located across Asia and Europe, Quantum Solar combines advanced production capabilities with a reliable supply chain to deliver high-quality renewable energy solutions to markets around the world.

We look forward to the opportunity of working together and achieving mutual success.

We possess comprehensive production and testing facilities with ample production capacity, ensuring our premium products are delivered to you on time, in full, and with guaranteed quality and safety.



170,000

Covering an area of
170,000m²



100,000

Factory building area
100,000m²



200,000

Annual production
capacity of 200,000 PCS





SOLAR PUMP INVERTER

Aqua Plus

Book-type Solar Pump Inverter

1AC 220V~240V

0.4~75kW

3AC 220V~240V

0.75~160kW

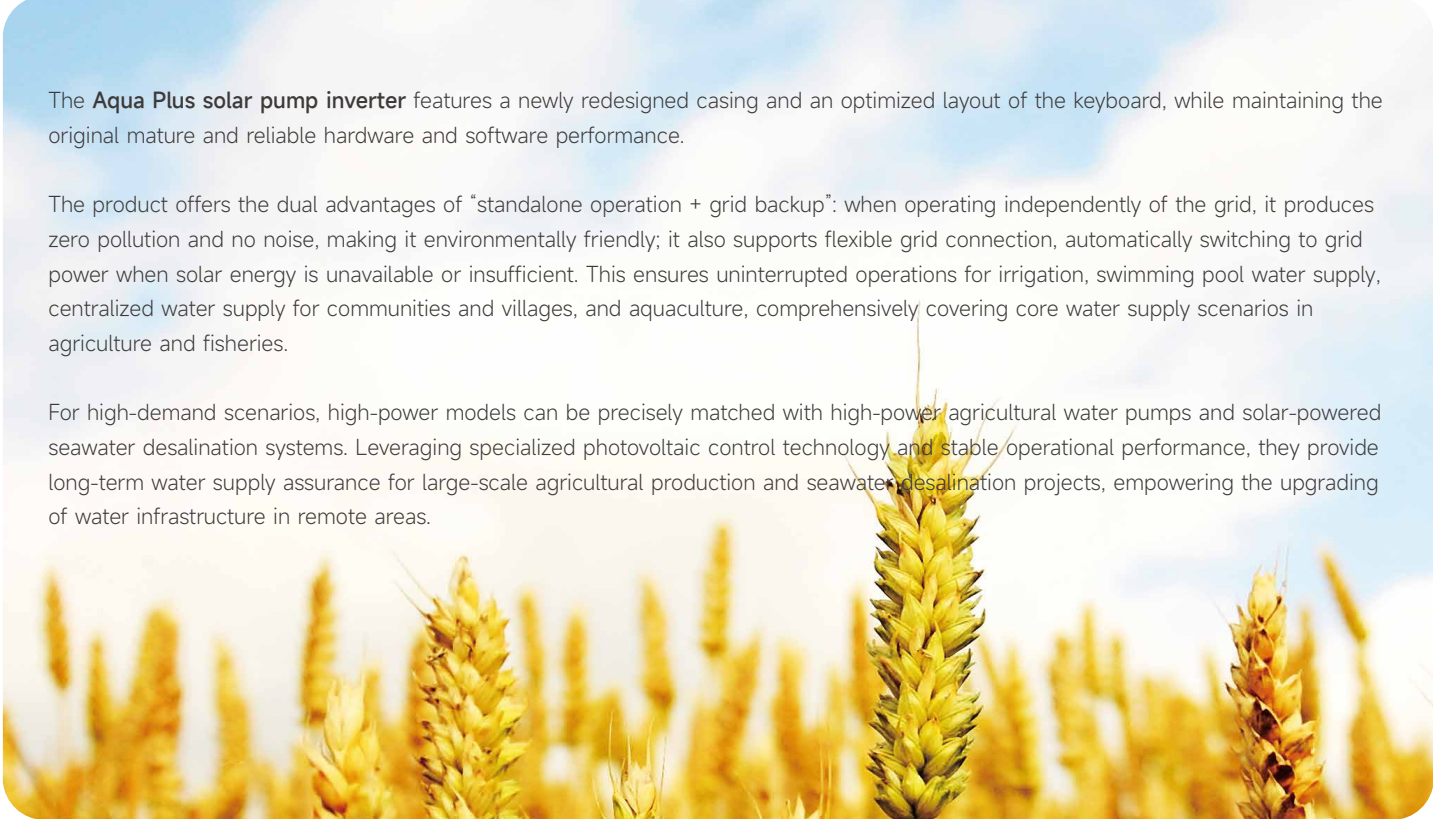
3AC 380V~480V

0.75~500kW

The **Aqua Plus solar pump inverter** features a newly redesigned casing and an optimized layout of the keyboard, while maintaining the original mature and reliable hardware and software performance.

The product offers the dual advantages of “standalone operation + grid backup”: when operating independently of the grid, it produces zero pollution and no noise, making it environmentally friendly; it also supports flexible grid connection, automatically switching to grid power when solar energy is unavailable or insufficient. This ensures uninterrupted operations for irrigation, swimming pool water supply, centralized water supply for communities and villages, and aquaculture, comprehensively covering core water supply scenarios in agriculture and fisheries.

For high-demand scenarios, high-power models can be precisely matched with high-power agricultural water pumps and solar-powered seawater desalination systems. Leveraging specialized photovoltaic control technology and stable operational performance, they provide long-term water supply assurance for large-scale agricultural production and seawater desalination projects, empowering the upgrading of water infrastructure in remote areas.



BASIC INFOMATIONS

POWER RATINGS

1AC 220V~240V

0.4~75kW

3AC 220V~240V

0.75~160kW

3AC 380V~480V

0.75~500kW

CONTROL MODE

V/f

SVC VC

COMPATIBILITY

Asynchronous pump

Synchronous pump

0.5 %
Failure Rate

2 YEARS
Warranty Period

5~20 DAYS
Lead Time

HIGHLIGHTS

Maximum Power
Point Tracking (MPPT)

99%

Super Easy to Use
Quick Start

READY
TO USE

Battery-free Design for
Multiple Scenarios

ZERO
BATTERY

Max. Operating
Ambient Temperature

50 °C

I/O TERMINALS

DI^{*2} × 8

DO^{*4} × 2

Relay output^{*5} × 2

Communication port^{*6} × 1

AI^{*3} × 1

AO^{*5} × 1

^{*2}: One input can serve as a high-speed pulse input (HDI). For model rated 22 kW and below, four inputs are standard. Additional I/O cards can be added for expansion, supporting up to five inputs.

^{*3}: 22kW and below: 1 input as standard. I/O card expansion available, supporting up to 2 inputs.

^{*4}: 1 input can be configured for high-speed pulse output (HDO). For model rated 22 kW and below, 1 input (including HDO functionality) is standard.

^{*5}: 22kW and below: 1 input as standard. I/O card expansion available, supporting up to 1 input.

^{*6}: Modbus RTU, RS485 differential signal port, standard 485 interface. Use shielded twisted pair cable when connecting.

Compatible with multiple expansion cards: I/O expansion card, Profinet communication card, Profibus-DP communication card, PG card, PT100/1000 temperature expansion card, CAN communication card, etc.

KEY FEATURES



Multiple pump control modes:
variable-frequency speed control
mode, CVT mode, MPPT mode



Compatible with mainstream solar
panels



Suitable for Asynchronous pumps
and permanent magnet synchronous
pumps



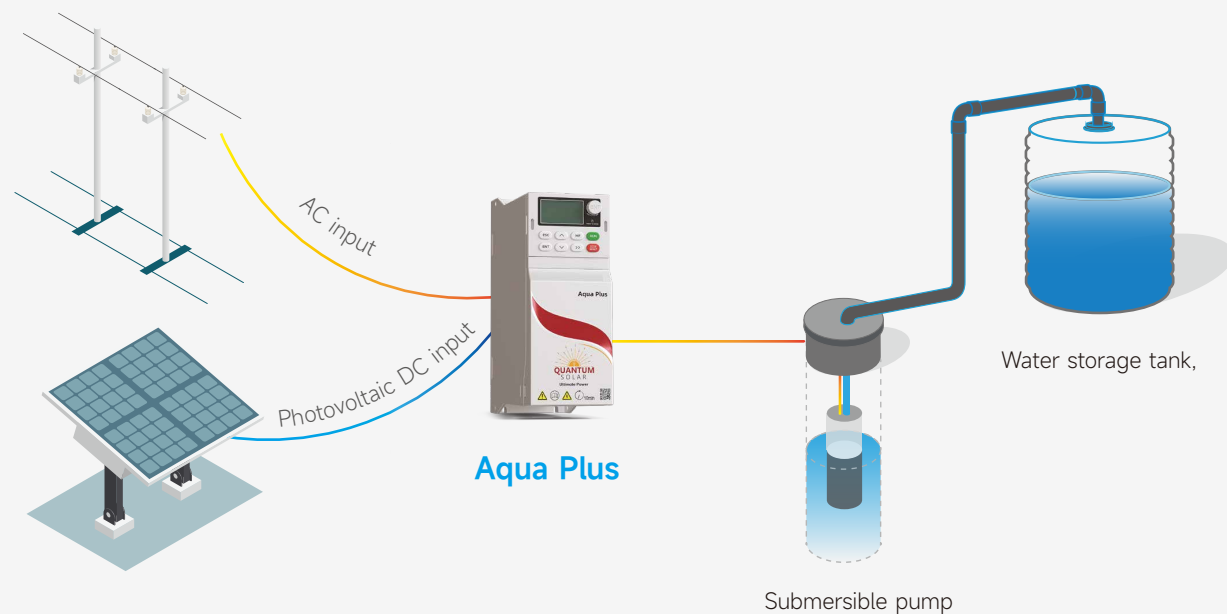
High-efficiency PV Power Adaptation Technology

MPPT

Equipped with MPPT (Maximum Power Point Tracking) technology, it accurately captures the maximum output power of PV modules to enhance PV energy utilization; supports a wide range of PV input voltages, adapts to PV modules of different power ratings, and is compatible with PV reverse connection and adaptive over/under-voltage regulation, effectively addressing issues such as outdoor light fluctuations and unstable power supply.

QUANTUM SOLAR

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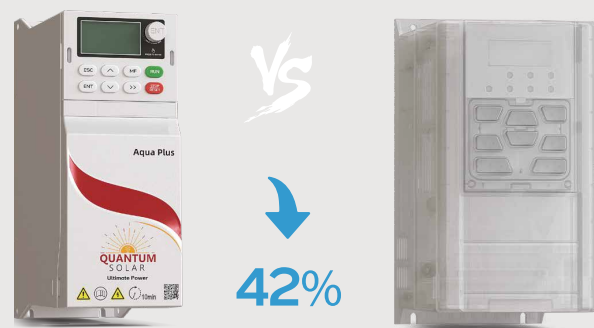


★ Hybrid Power Supply Control

Supports seamless switching between “standalone PV operation” and “grid-supplemented power supply” modes, enabling intelligent integration of solar and grid energy without manual intervention. This ensures uninterrupted water supply during periods of no sunlight, insufficient sunlight, or peak water usage, balancing energy efficiency

★ Intelligent Control Technology for Pumps

Features built-in dry-run and low-water detection, as well as a stall detection algorithm, to precisely match the pump’s operating characteristics; supports soft start and soft stop functions to effectively prevent water hammer and reduce start-up impact on the pump and piping, thereby extending system lifespan; automatically adjusts pump speed based on water demand to deliver water on demand and reduce energy consumption.



The full series features a book-style design, reducing installation space requirements by 42% when three units are installed side-by-side compared to conventional models.



Supports seamless side-by-side installation without compromising heat dissipation, maximizing space savings.



Comprehensive thermal simulation design ensures optimal hardware layout and enhances reliability.

All-new high-speed isolated air duct design:

- Features a full range of DC fan cooling solutions
- Paired with wide-tooth surface heat dissipation structures
- High-velocity airflow design

Significantly enhancing thermal efficiency to ensure long-term stable operation.

Effectively blocks dust, moisture, and other harsh environmental factors from intrusion, markedly improving environmental adaptability for seamless integration into diverse complex industrial settings.

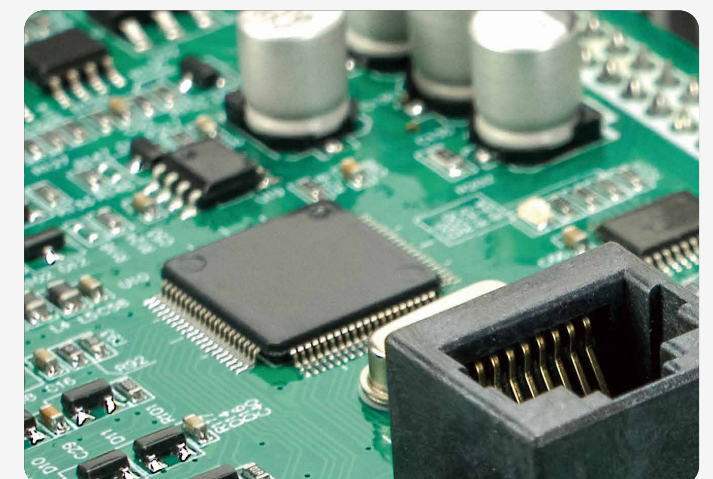
Optional LCD Keyboard with High-Definition LCD Display Design:

Features an intuitive LCD screen supporting up to 4 lines of simultaneous text display, enabling rapid and precise reading of core device operating parameters and status information to significantly enhance operational efficiency.

Additionally, it supports personalized display customization, adaptable to diverse industry scenarios and maintenance requirements for enhanced flexibility.



All keyboard buttons feature silicone buttons with enhanced tactile feedback, delivering an exceptional user experience.



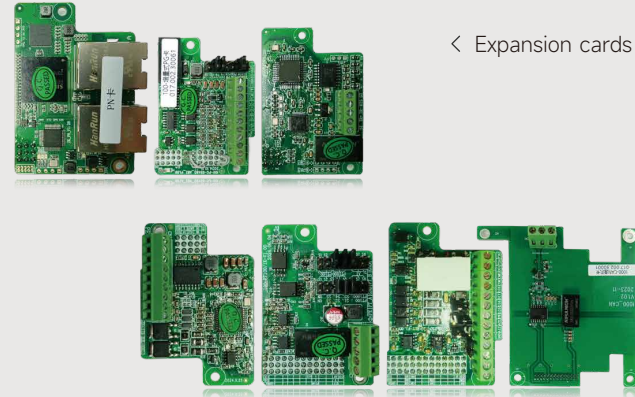
Enhanced conformal coating design for seamless operation in harsh environments.



< Local Keypad

External keyboard

Optimized keyboard design for enhanced convenience, supporting simultaneous dual display of external and built-in keyboards.



< Expansion cards

Hardware modular design with strong expandability, comprehensive expansion interfaces, and a wide range of optional accessories to cover diverse application scenarios.

HIGH RELIABILITY



Premium Supply Chain Assurance + Scientific Redundancy Design: Selecting renowned industry suppliers to establish deep strategic partnerships, integrating core components from leading international brands; Implementing rational equipment redundancy design to enhance product operational stability and lifespan at the hardware level, ensuring long-term reliable operation.



The product undergoes comprehensive reliability testing prior to shipment, featuring robust interference resistance and equipped with comprehensive protection functions to ensure it meets the demands of complex application environments.



EMC testing



Environment & Reliability testing



Routine testing



Comprehensive protection features: Includes overcurrent protection, overload protection, overvoltage protection, undervoltage protection, motor phase loss protection, current imbalance protection, ground fault protection, phase-to-phase short circuit protection, overheat protection, over-torque protection, motor stall protection, and underload protection; Additionally incorporates lightning surge protection and EMC electromagnetic compatibility safeguards, ensuring comprehensive security and stable operation for the inverter, motor, and entire electrical system—suited for complex industrial environments.



PV-side protection: PV overvoltage protection, PV undervoltage protection, and PV reverse connection protection effectively address fluctuations in solar power supply and wiring errors, ensuring the safety of both the PV modules and the inverter.



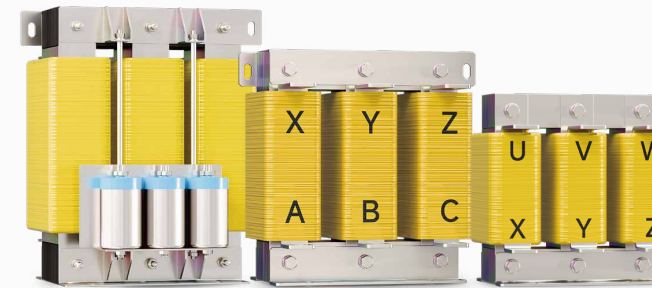
Pump operation protection: Pump dry-run/low-water protection, pump stall protection, and pump overload protection prevent motor burnout due to dry running and damage caused by jamming, thereby extending the service life of the equipment.

This catalog does not provide an exhaustive list. For more details, please contact us or refer to the user manual.

OPTIONS

Reactor / Filter

When the pump and inverter need to be connected over a long distance, a reactor or filter must be installed. The following table lists the maximum distances supported by reactors and filters. Please select the appropriate accessories based on your needs, or contact us for recommendations on suitable models.



ITEM	Cable Length (m)
Output Reactor	50~150
dv/dt Filter	150~500
Sinewave Filter	500~1000

GPRS expansion module

The Aqua Plus supports GPRS expansion modules. When paired with IoT applications, it enables remote control of solar pump inverter and real-time monitoring of inverter data.



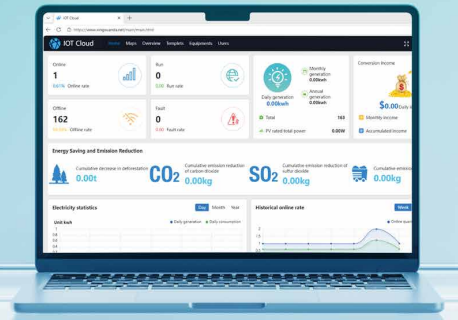
IOT CLOUD

For MOBILE APP



We have developed a mobile app for Aqua Plus, compatible with iOS and Android users. This app enables real-time inverter control, status monitoring, and statistical data access anytime, anywhere via smartphone.

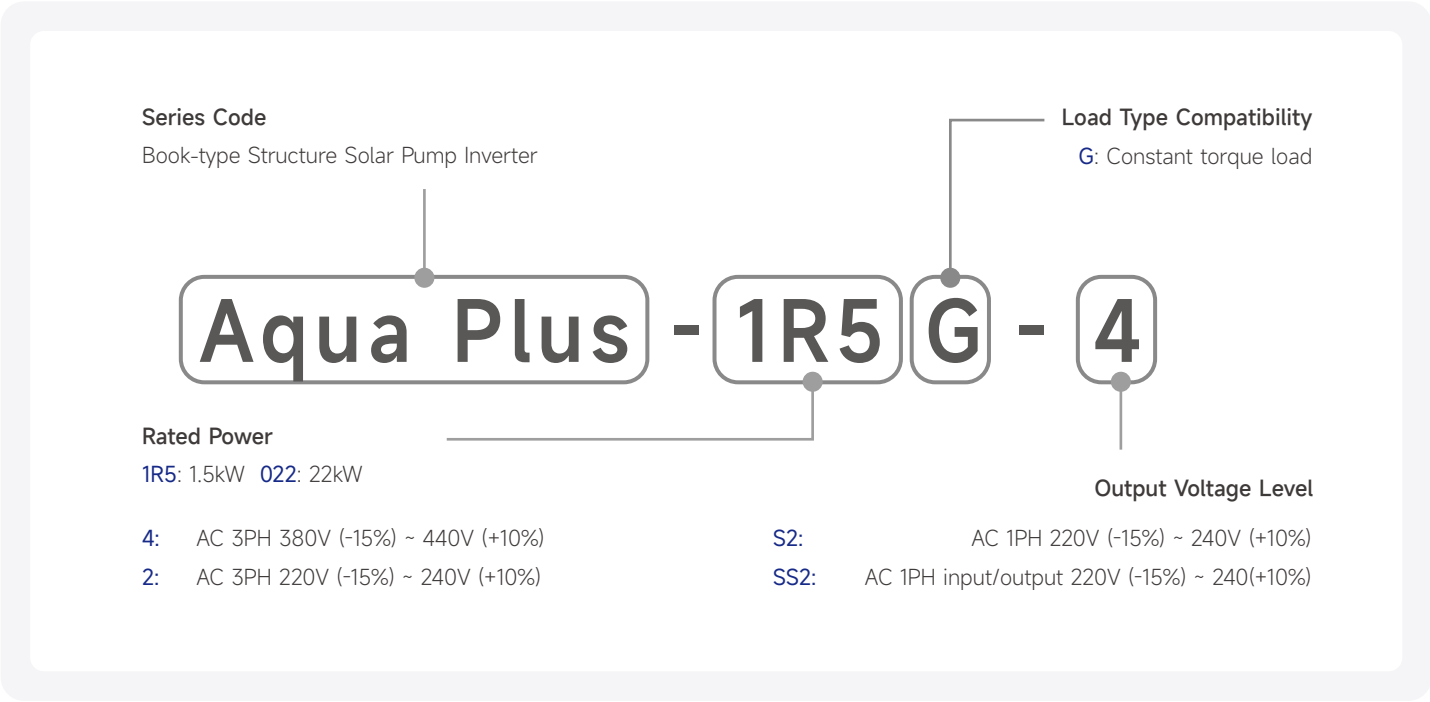
*Requires GPRS hardware module



You can also access the cloud platform via PC to control inverters, monitor their status, and analyze data. Compared to mobile apps, the PC-based cloud monitoring interface offers richer, more intuitive features and more comprehensive functionality.

*Requires GPRS hardware module

MODEL INDICATION



PUBLIC PARAMETERS

MODEL	-SS2/-S2	-2	-4
AC input voltage (V)	220 (-15%) ~240 (+10%) (1PH)	220 (-15%) ~ 240 (+10%) (3PH)	380 (-15%) ~440 (+10%) (3PH)
Maximum DC voltage (V)	440	440	900
Starting voltage (V)	200	200	300
Minimum operating voltage (V)	150	150	250
Recommended DC V _{in} (V)	200~400	200~400	300~800
Recommended MPP voltage	330	330	550

MODELS

1AC 220~240V					1AC 220~240V				
MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)	MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)
Aqua Plus-0R4G-SS2	0.4	6.5	4.2	9	Aqua Plus-1R5G-SS2	1.5	15.7	10.2	12
Aqua Plus-0R7G-SS2	0.75	9.3	7.2	9	Aqua Plus-2R2G-SS2	2.2	24	14	12

1AC 220~240V

MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)
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Aqua Plus-0R4G-S2	0.4	6.5	2.5	9
Aqua Plus-0R7G-S2	0.75	9.3	4.2	9

1AC 220~240V

MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)
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Aqua Plus-1R5G-S2	1.5	15.7	7.5	12
Aqua Plus-2R2G-S2	2.2	24	10	12

3AC 220~240V

Aqua Plus-1R5G-2	1.5	7.7	7.5	12
Aqua Plus-2R2G-2	2.2	11	10	12
Aqua Plus-4R0G-2	4	17	16	20

Aqua Plus-5R5G-2	5.5	25	20	30
Aqua Plus-7R5G-2	7.5	33	30	40

3AC 380~440V

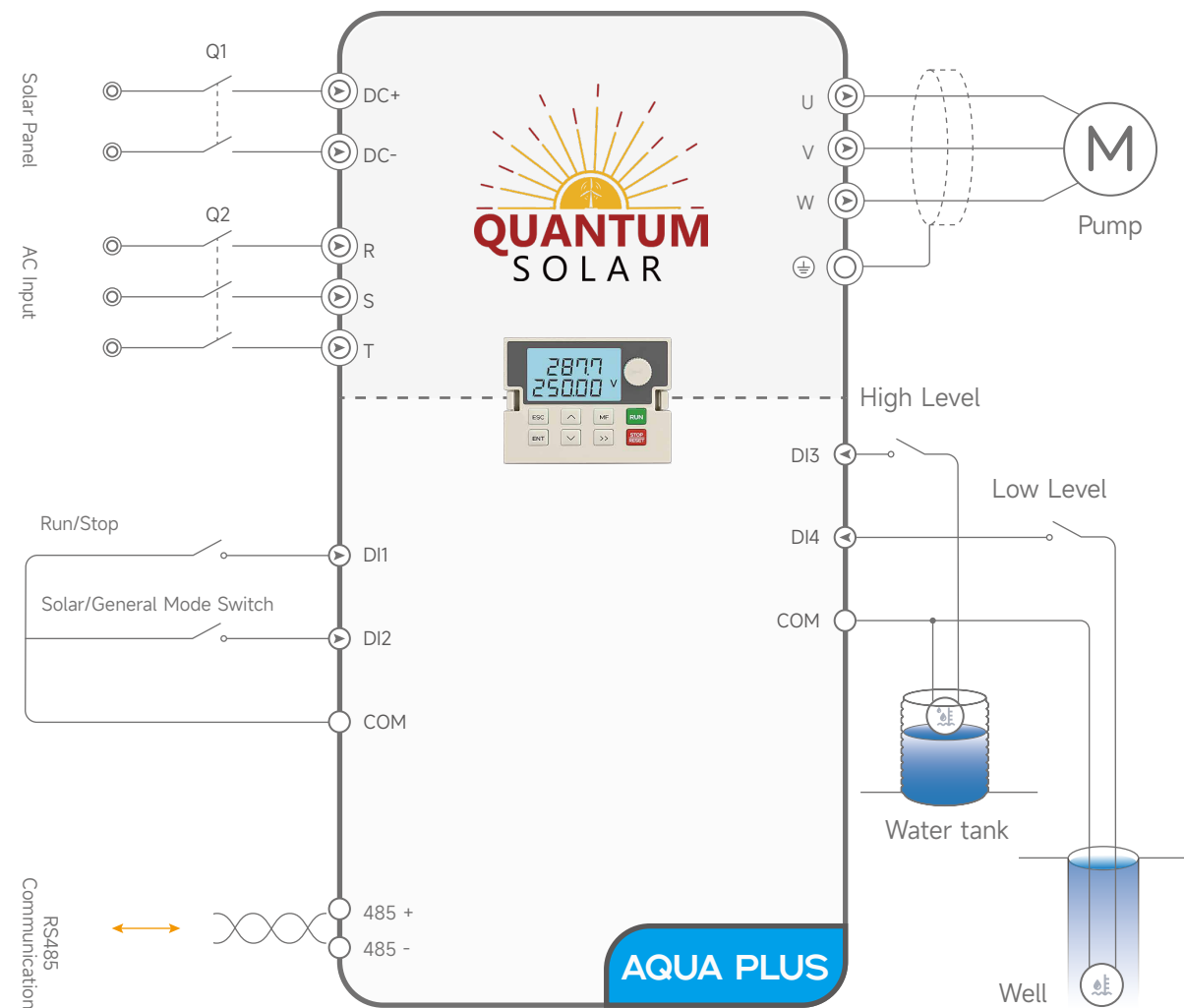
MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)
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Aqua Plus-0R7G-4	0.75	3.4	2.5	9
Aqua Plus-1R5G-4	1.5	5.0	4.2	9
Aqua Plus-2R2G-4	2.2	5.8	5.5	12
Aqua Plus-4R0G-4	4.0	13.5	9.5	16.5
Aqua Plus-5R5G-4	5.5	19.5	14	23.9
Aqua Plus-7R5G-4	7.5	25	18.5	30.6
Aqua Plus-011G-4	11	32	25	39.2
Aqua Plus-015G-4	15	40	32	49
Aqua Plus-018G-4	18.5	47	38	50
Aqua Plus-022G-4	22	51	45	60
Aqua Plus-030G-4	30	70	60	81
Aqua Plus-037G-4	37	80	75	90
Aqua Plus-045G-4	45	98	92	130
Aqua Plus-055G-4	55	128	115	150
Aqua Plus-075G-4	75	139	150	200

3AC 380~440V

MODEL	Output Power (kW)	Input Current (A)	Output Current (A)	Max DC I _{in} (A)
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Aqua Plus-090G-4	90	168	180	250
Aqua Plus-110G-4	110	201	215	300
Aqua Plus-132G-4	132	265	260	360
Aqua Plus-160G-4	160	310	305	430
Aqua Plus-185G-4	185	345	340	500
Aqua Plus-200G-4	200	385	380	550
Aqua Plus-220G-4	220	430	425	480
Aqua Plus-250G-4	250	485	480	525
Aqua Plus-280G-4	280	545	530	600
Aqua Plus-315G-4	315	610	600	690
Aqua Plus-355G-4	355	625	650	760
Aqua Plus-400G-4	400	715	720	870
Aqua Plus-450G-4	450	840	820	970
Aqua Plus-500G-4	500	890	860	1100



APPLICATIONS

Widely used in various water treatment applications, including domestic water supply, municipal water supply, agricultural irrigation, forestry irrigation, livestock water supply, desertification control, and seawater desalination.



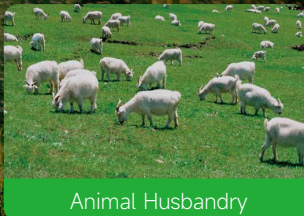
Agricultural Irrigation



Municipal Water Supply



Desert Control

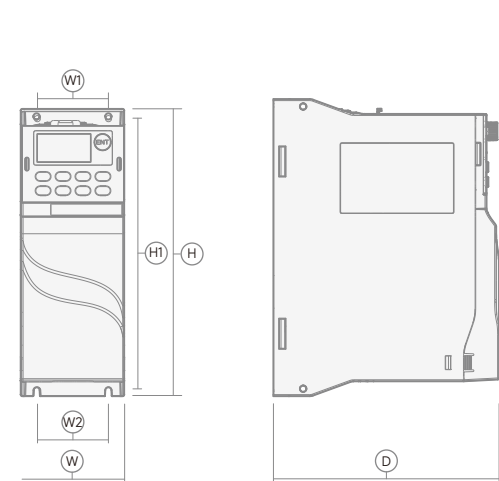


Animal Husbandry

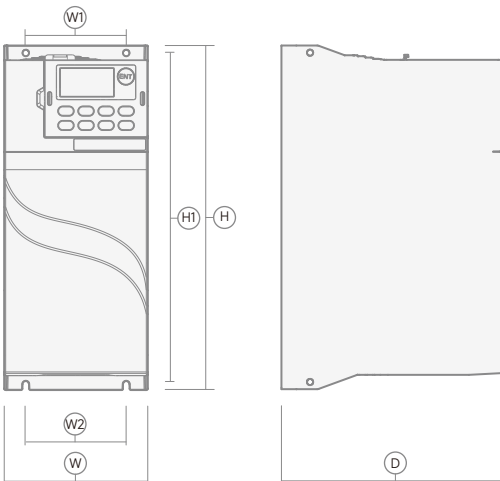
NOTES

- Different power ratings share a similar appearance- FRAME A/B/C, with slight variations in dimensions and proportions.
- For more size & weight information, please visit our website or contact us directly.
- For specific dimensions of certain custom models, please contact us.

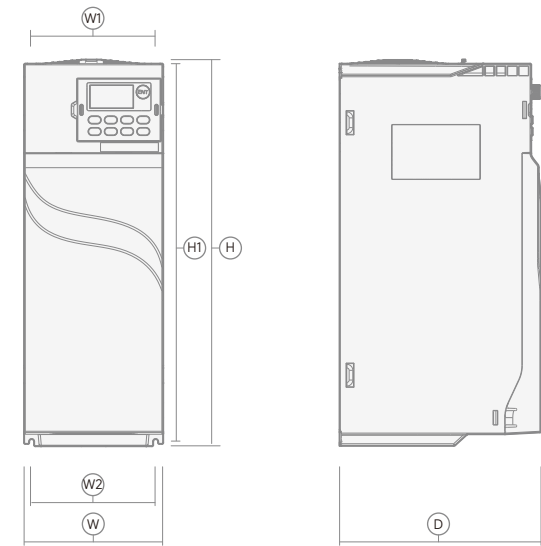
FRAME A



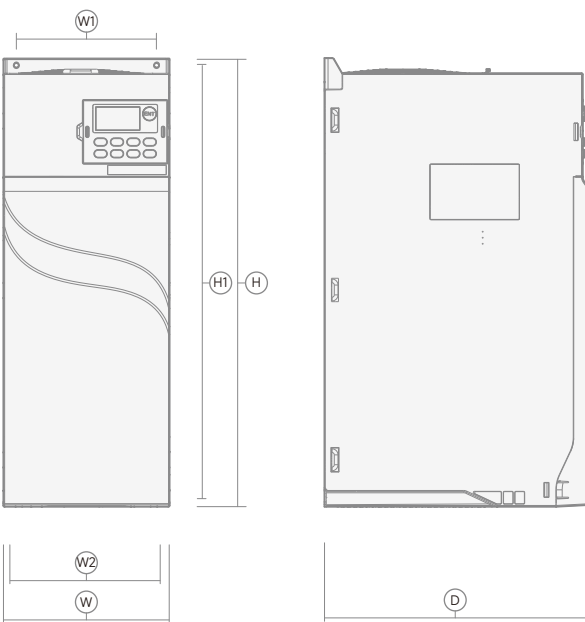
FRAME B



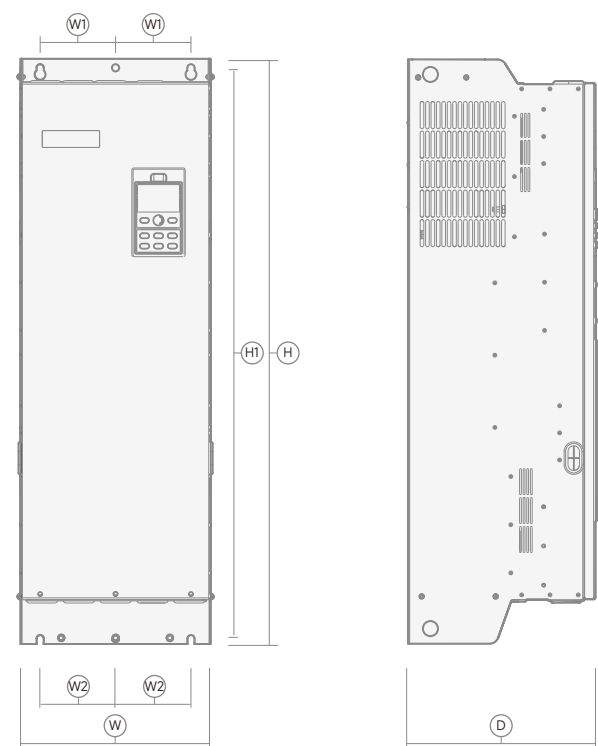
FRAME C



FRAME D



FRAME E



Due to space limitations, we have not listed all model dimensions and charts in full. For more size information, please visit our website or contact us.

Unit: mm

Frame A 0R7G-4 ~ 2R2G-4

W	H	D	W1	W2	H1	Mounting aperture
72	200	150.5	50	50	190.8	Φ4

Frame C 011G-4 ~ 015G-4

W	H	D	W1	W2	H1	Mounting aperture
120	330	172.5	111	107	321.5	Φ4

Frame E 030G-4 ~ 037G-4

W	H	D	W1	W2	H1	Mounting aperture
172	430	230	140	140	412	Φ7

Frame B 4R0G-4 ~ 7R5G-4

W	H	D	W1	W2	H1	Mounting aperture
100	240	160.5	70	70	230.8	Φ4

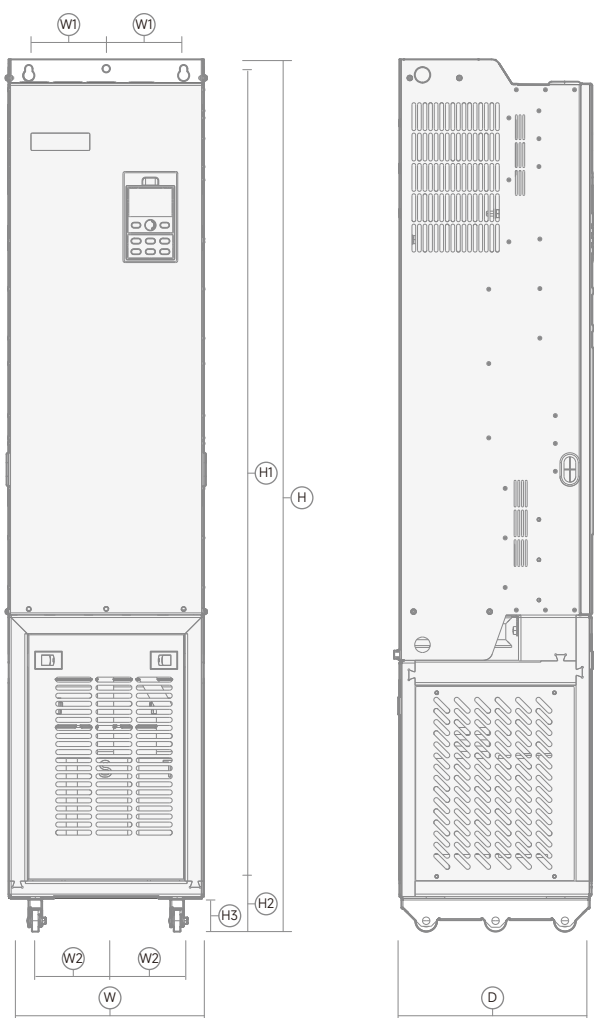
Frame D 018G-4 ~ 022G-4

W	H	D	W1	W2	H1	Mounting aperture
142	383	227.5	120	129	373.5	Φ4

Frame E 045G-4 ~ 055G-4

W	H	D	W1	W2	H1	Mounting aperture
210	500	270	150	150	480	Φ10

FRAME F



Frame E 075G-4 ~ 110G-4

W	H	D	W1	W2	H1	Mounting aperture
290	810	285	220	220	790	Φ10

Frame E 185G-4 ~ 220G-4

W	H	D	W1	W2	H1	Mounting aperture
360	995	480	180	180	953	Φ18

Frame E 350G-4 ~ 500G-4

W	H	D	W1	W2	H1	Mounting aperture
410	1500	550	200	200	1470	Φ18

Frame F 132G-4 ~ 160G-4

W	H	D	W1	W2	H1	H2	H3	Mounting aperture
315	1408	310	250	250	970	422	53	Φ12

Frame F 250G-4 ~ 315G-4

W	H	D	W1	W2	H1	H2	H3	Mounting aperture
370	1665	550	200	200	1520	123	57	Φ18

Frame E 132G-4 ~ 160G-4

W	H	D	W1	W2	H1	Mounting aperture
315	970	310	250	250	940	Φ12

Frame E 250G-4 ~ 315G-4

W	H	D	W1	W2	H1	Mounting aperture
370	1194	550	200	200	1164	Φ18

Frame F 75G-4 ~ 110G-4

W	H	D	W1	W2	H1	H2	H3	Mounting aperture
290	1248	285	220	220	815	422	53	Φ10

Frame F 185G-4 ~ 220G-4

W	H	D	W1	W2	H1	H2	H3	Mounting aperture
360	1460	480	180	180	1315	118	57	Φ18

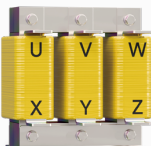
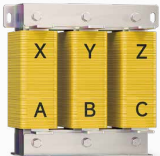
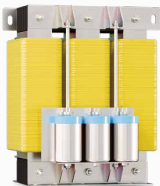
Frame F 350G-4 ~ 500G-4

W	H	D	W1	W2	H1	H2	H3	Mounting aperture
410	2075	550	200	200	1942	112	57	Φ18



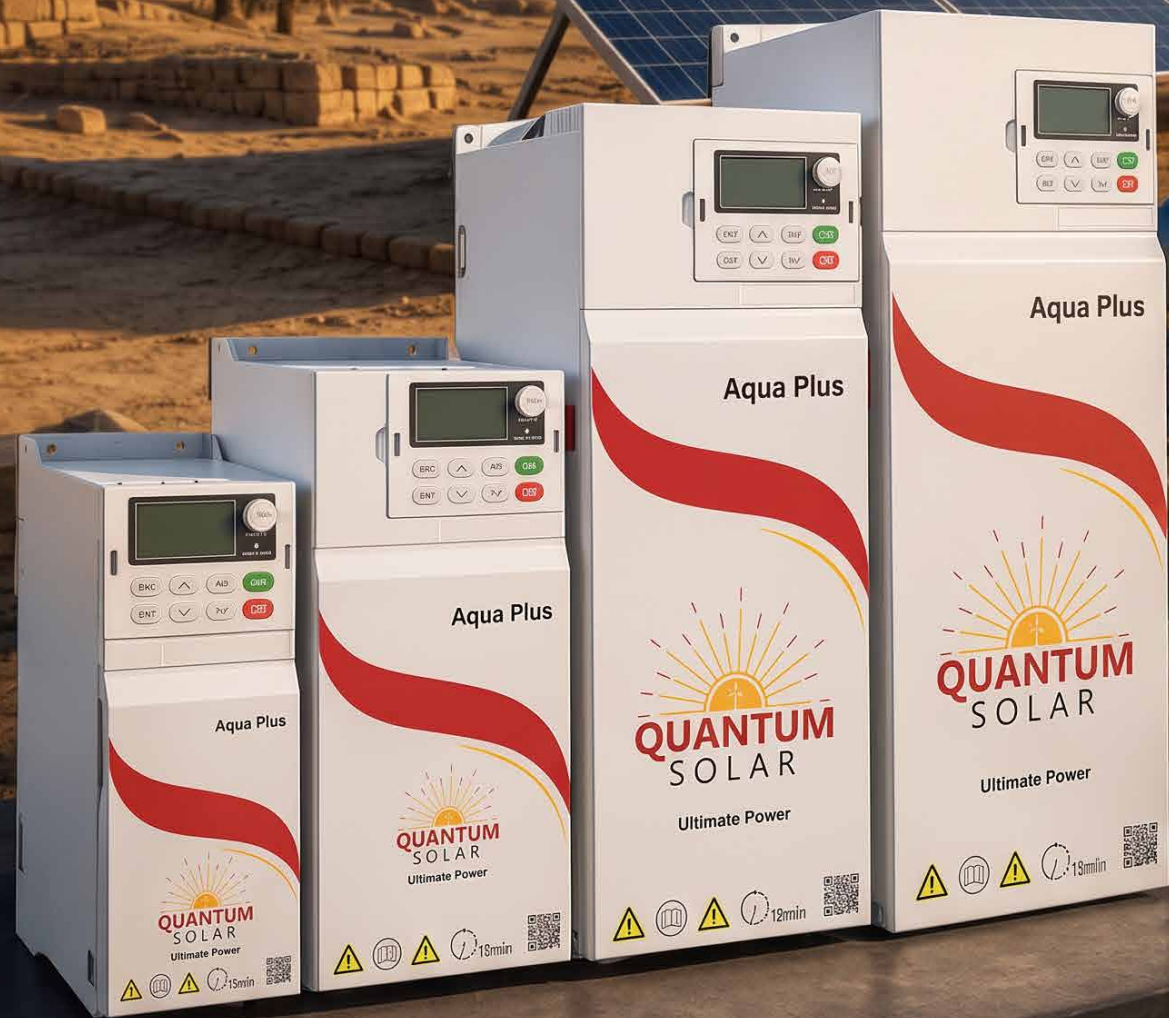
We also offer optional accessories or equipment such as [reactors](#), [output filters](#), [sinewave filters](#) and [solar panels](#).

Should you require further assistance, please feel free to contact us for detailed selection guidance.



SOLAR PUMP INVERTER

Aqua Plus





QUANTUM CARE

Whether for standard or customized products, we provide corresponding solutions and technical support to ensure all products meet customer requirements in an optimized

Remote & On-site Support

We can provide you with remote and on-site service support to ensure the safe and stable operation of your products, including:



Pre-sales Technical Exchange



Local Installation & Debugging



After-sales Technical Support



Rapid Repair Services



Spare Parts Service

Customized Services & Expert Support

Due to technological and product iterations, you may need to expand your existing systems or retrofit legacy systems. We can provide expert services for such requirements, assisting you in meeting your innovative value demands, including:



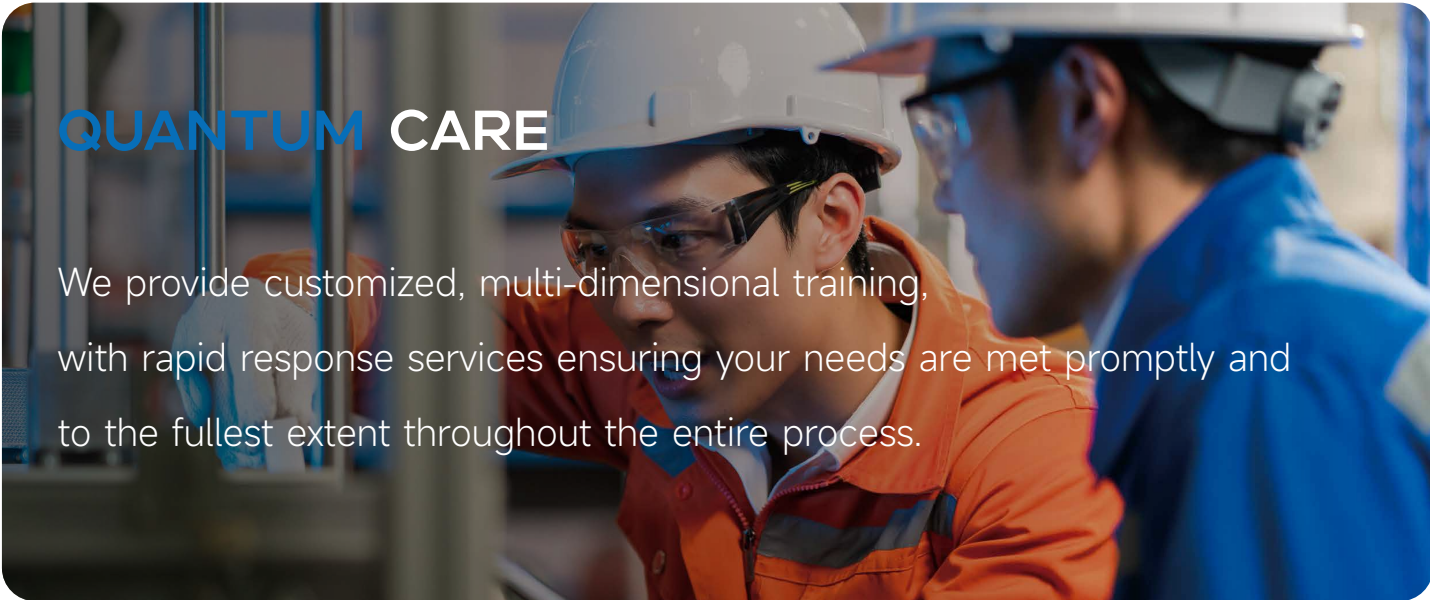
Professional Remote Technical Consultation & Support



Arrive on-site within the agreed timeframe to assist in resolving the issue.



Professional technical requirements analysis, continuous product optimization and updates



QUANTUM CARE

We provide customized, multi-dimensional training, with rapid response services ensuring your needs are met promptly and to the fullest extent throughout the entire process.

Customized Training

To meet your diverse needs, we offer customized training for your system designers, equipment operators, and maintenance personnel. This typically includes:



General Product Overview



Product Operation & Usage



Various Debugging Techniques



Fault Identification, Localization, Resolution

Rapid Supply Chain & Support Response

Our global network of technical support and after-sales service ensures prompt resolution of any customer requests. Additionally, our technical service team can provide on-site installation, commissioning, and operational training within agreed-upon timeframes, guaranteeing customers peace of mind throughout the purchasing and usage process.