Driven by Technology

AC Drives



AC MultiDrives



MV Drives



Single-Axis Servos



Multi-Axes Servos



Robotics & Motion Controllers



PLCs & HMIs



CNC Machine Tool Solutions



Electric Vehicle Inverters



INOVANCE

Forward, Always Progressing

International Offices

Hong Kong SAR (export office)
Tel: +852 2751 6080
info@inova-automation.com

South Korea-Seoul
Tel: +82 (0) 10 7428 5732
info@inova-automation.com

India
Head Office Chennai
Tel: +91 (0) 44 4380 0201
Ahmedabad
Tel: +91 (0) 79 4003 4274
Mumbai
Tel: +91 (0) 22 4971 5883
Delhi Tel: (to be allotted)
Sales Network in Kolkata, Bengaluru, Coimbatore, Hyderabad, Pune
info.inovaindia@inova-automation.com

Germany-Stuttgart
Tel: +49 (0) 7144 8990
sales@powerautomation.com
www.powerautomation.com

Italy-Milano
Tel: +39 (0) 2268 22318
info@inova-automation.it

France-Bordeaux
Tel: +33 (0) 5594 01050
pa.france@powerautomation.com

Turkey-Istanbul
Tel: +90 (0) 21 6706 1789
info.turkey@inova-automation.com

China
Shenzhen Inovance Technology Co., Ltd.
Suzhou Inovance Technology Co., Ltd.
Suzhou Monarch Control Technology Co., Ltd.
info@inova-automation.com

For other country distributors, contact the Hong Kong export office.

iNOVA automation by INOVANCE

Inovance Technology
www.inovance.com

Monarch by INOVANCE

Copyright © Inovance Technology Co., Ltd. All rights reserved.

Data code: L6210190 V0.0

INOVANCE

HD9XS Series

Medium-voltage AC Drive



HD9XS Series Medium-voltage AC Drive

	HD9XS series Medium-voltage power cells cascaded compact AC Drive		
Appearance			
Power Class	3.3 kV: 100–1500 kVA 6 kV: 250–3000 kVA	6.6 kV: 250–1600 kVA 10 kV: 250–2500 kVA 11 kV: 250–2800 kVA	6.6 kV: 1800–3000 kVA 10 kV: 2800–4500 kVA 11 kV: 3000–5000 kVA
Cooling	Forced air cooling		
Basic Features	Medium-voltage vector AC drive designed based on a two- or four-quadrant synchronous or asynchronous motor control platform, featuring power cells connected in series and bypass supporting architecture		
Application Scope	Energy-saving applications of fans and water pumps in the petrochemical, electric power, chemical, metallurgical, building materials, municipal and other fields Process-oriented applications, such as compressors, belt conveyors, hoists, crushers, ball mills, and AC drive soft start		
Competitive Advantage	High efficiency, high power factor, and low harmonics High-performance vector technology and accurate speed regulation Brushless synchronous motor control technology		

Note: The above voltage classes and power are specifications of standard products. Other voltage classes and special process-oriented applications can be customized as needed.

HD9XS Series Medium-voltage AC Drive

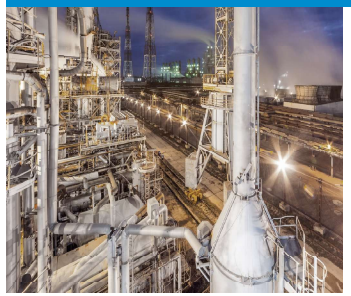
Appearance	HD90S General-purpose medium-voltage vector AC drive (asynchronous motor)	HD92S High-performance medium-voltage vector AC drive (asynchronous motor)	HD93S High-performance medium-voltage vector AC drive (synchronous motor)
	Basic features: Medium-voltage vector AC drive designed based on a two-quadrant asynchronous motor control platform, featuring a general-purpose vector algorithm and power cells connected in series Voltage range: 3–11 kV Application : Square torque loads, such as fans and water pumps	Basic features: High-performance and medium-voltage vector AC drive with power cells connected in series, designed based on a two- or four-quadrant asynchronous motor control platform, featuring a sensorless field oriented control algorithm Voltage range: 3–11 kV Application : High-performance and high-dynamic response applications, such as hoists, belt conveyors, and test beds	Basic features: Designed based on a two- or four-quadrant synchronous motor control platform, featuring a sensorless field oriented control algorithm, and compatible with electric exciting synchronous motors and permanent exciting synchronous motors Voltage range: 3–11 kV Application : Hoists, main exhaust fans, blast furnace blowers, compressors, and other applications





Inovance Boosts the Upgrade of the Heavy Industry

The global heavy industry faces severe challenges of transformation and upgrade while coping with huge pressure from slow growth, overcapacity, energy conservation, and emission reduction. To help optimize the industrial structure, promote low-carbon cycle development, and improve the quality of heavy industry products, Inovance boosts the upgrade of the global heavy industry by providing efficient and durable solutions for metallurgy, electricity, building materials, petrochemical, paper making, municipal, shipbuilding, rubber, mining, and other industries.











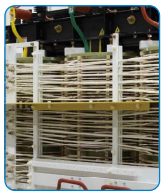
HD9XS Series Power Cells Cascaded MV AC Drive

Air cooling

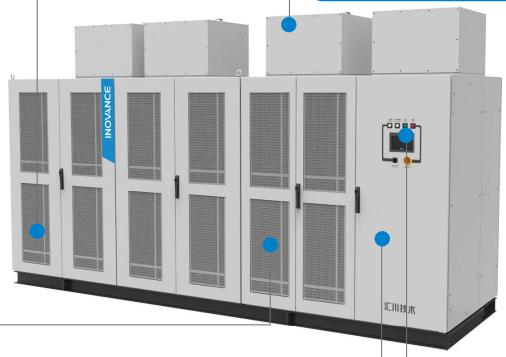
- The medium-voltage AC drive uses top quality fans, featuring a large air volume, sufficient allowance, long service life, and high stability. This meets the heat dissipation requirement of the AC drive and improves its stability.

Transformer cabinet

- The input side adopts a multi-pulse rectification architecture formed by a phase shift transformer. This greatly improves the current waveform on the network side, increases the input power factor, and reduces the harmonic pollution of equipment to the mains.



6.6 kV: 1800–3000 kVA
10 kV: 2800–4500 kVA
11 kV: 3000–5000 kVA



Power cell cabinet and power cell

- Each phase consists of 3 to 9 power cells to form a 4N +1 level PWM waveform. Three-phase Y connection is used to directly output 3 to 11 kV power.



Power cell

Control system

- The AC drive uses an intelligent controller based on high-speed ARM, DSP, and FPGA. The AC drive employs the sensorless field oriented control technology and optimized ripple PWM control technology for high-quality sinusoidal voltage and current output.

Man-machine interface

- The AC drive uses the novel InoTouch series touchscreen independently developed and produced by Inovance, which provides friendly interfaces and it is convenient for user system connection.



Back-to-back Structure Design, More Compact Size

3.3 kV: 100–1500 kVA
6 kV: 250–3000 kVA





Power cell cabinet



- The HD9XS series medium-voltage AC drive adopts a new power cell design and thus is lighter and more aesthetic than the HD9X series. Its innovative semi-sealed structure makes it more adaptable to the environment and more reliable.

Control cabinet

- The HD9XS series medium-voltage AC drive uses a new-generation control cabinet architecture that is consistent with the main control system of the HD9X series. This improves the uniformity of onsite spare parts. Some details in the control cabinet are optimized, making it more convenient to operate the AC drive on site.

Bypass cabinet and wiring cabinet

- The HD9XS series medium-voltage AC drive innovatively integrates a one-to-one manual or automatic bypass cabinet, without changing the installation size of the AC drive.

Transformer cabinet

- The HD9XS series medium-voltage AC drive adopts front-and-back arrangement of the transformer cabinet and power cell cabinet. Its advanced thermal design not only ensures heat dissipation but also saves the onsite installation space and reduces the cost of infrastructure construction for customers.

6.6 kV: 250–1600 kVA
10 kV: 250–2500 kVA
11 kV: 250–2800 kVA





- Note: Only 6.6 kV/10 kV/11 kV built-in bypass cabinet

Continuous Production Guaranteed by Reliability and Durability



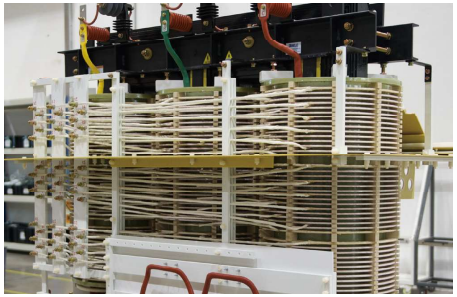
Reliability and a long service life guaranteed by strict component selection and the most comprehensive test

Each product is guaranteed to meet the design requirements and customers' onsite process-oriented application requirements from product design to production.
Strict component selection and design: All core components are strictly tested and screened. The selected products are of high quality and a long service life and come from top-notch brands worldwide.
Advanced test conditions and test items: The leading multifunctional full-voltage and full-load test platform dedicated to medium-voltage AC drives has a maximum load of 4 MW. Each product undergoes dielectric testing, functional testing, aging testing, mechanical back-to-back testing, and full-load current testing before delivery.



Stable operation in various industry and environments, strong environmental adaptability

Inovance HD9XS series medium-voltage AC drive is designed to meet different application requirements in various use environments, such as sea, land, plains, plateaus, and corrosive or dusty environments.
Application at the highest altitude: The HD9XS series medium-voltage AC drive is used at an altitude of 4650 m over sea level in Naqu, Tibet, which is the highest-altitude application in the industry.
Application in extremely cold and dusty environments: The HD9X series medium-voltage AC drive is successfully used at a copper mine in Karabas, Russia.
Application in environments with high humidity and salt fog: The HD9X series medium-voltage AC drive is widely used in port shore power, port conveyors, and offshore platforms.



Product safety improved by reliable short-circuit protection for the secondary side of the phase shifting transformer

Inovance independently develops the short-circuit protection technology for the secondary side of the phase shifting transformer to avoid accidents such as fire and equipment damage caused by transformer secondary side short-circuit. This reduces customer losses and prevents fault escalation.
Timely: The short-circuit protection technology detects short-circuit information before the transformer may malfunction and takes protective measures to ensure equipment safety.
Omni-directional: The short-circuit protection technology gives comprehensive consideration to the number of short-circuit phases and short-circuit positions, and provides effective protection under various working conditions.
Flexible: No additional equipment is needed, making operation flexible and reliable.



Continuous production even with abnormal power grid, backed by strong mains adaptability

The HD9XS series medium-voltage AC drive supports low- and high-voltage ride through. Inovance is one of the drafters of the DL/T1648-2016 standard of the State Grid Corporation of China (SGCC). The AC drive has passed the test by the China Electric Power Research Institute (CEPRI) affiliated to the SGCC and is suitable for applications with poor mains and those with high reliability requirements.

Easy Commissioning and Troubleshooting



Local multi-language touchscreen

The HD9X series medium-voltage AC drive provides the simple, sensitive, and standard 7-inch full-color touchscreen, which is easy to use even for ordinary operators. The touchscreen supports a series of functions, such as setting parameters, viewing the detailed status of power cells, viewing fault records and logs, and 4-channel oscilloscope function.

Support for multiple languages
The touchscreen supports online switching among multiple languages.
Text library files in multiple languages can be imported and exported in the Excel format.



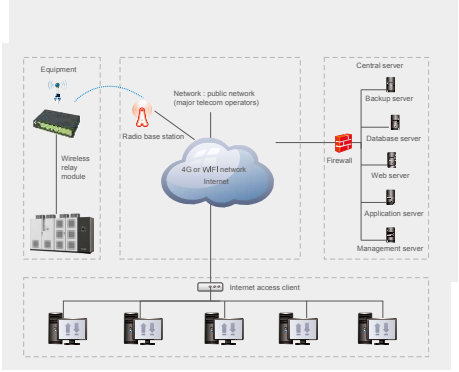
Guided commissioning

The HD9X series medium-voltage AC drive is as easy to use as mobile phones. Pre-commissioning can be completed simply by setting parameters based on predefined steps.



Troubleshooting guide

Accurate guidance: Each fault can be located accurately when the HD9XS series medium-voltage AC drive is used.
Troubleshooting: Users can quickly identify the cause of a fault and find the troubleshooting steps based on the fault code by touching a few buttons, without having to look up the user guide. This enables quick fault solving and reduces the downtime.
Black box function: The data at 700 points before and after a fault are recoded for accurate analysis of complex faults.



IoT-based operation

The HD9XS series medium-voltage AC drive supports remote fault diagnosis and commissioning based on Inovance's IoT platform. More responsive after-sales service is provided through real-time information capture.
Real-time information about product performance is analyzed.
The operation efficiency, accuracy, and flexibility are improved.

Excellent Technologies and Efficient Applications

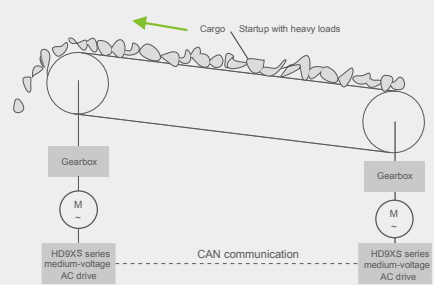
Provide strong power for your equipment

to meet all kinds of complex and high-performance process-oriented applications



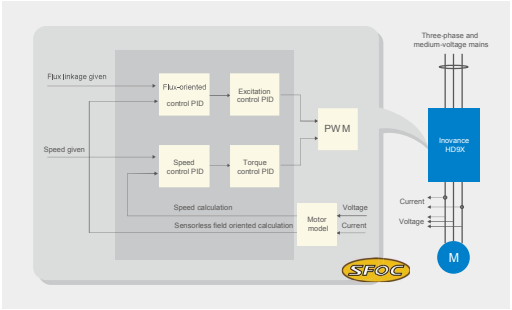
Fast Cut Back technology in the power industry

The advanced fast hybrid braking technology quickly reduces the load speed from 100% to the target rotational speed in a short time.
Application to the largest self-contained power plant (350 MW units) in the metallurgical industry: 6 sets of 2900 kW induced draft fans



Advanced master-slave control load distribution technology

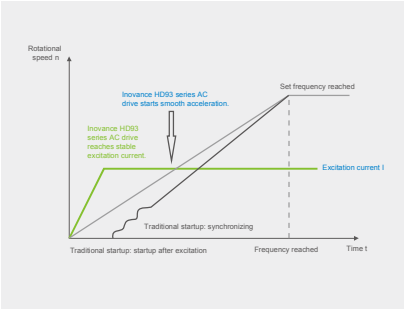
The HD9XS series medium-voltage AC drive adopts the advanced master-slave control technology, which is widely used in multi-motor driven belt conveyors and other multi-motor parallel applications and is able to control the load imbalance to within 2%.



Most suitable application algorithm for medium-voltage and high-power motors

Based on stator magnetic field orientation, the sensorless field oriented control algorithm is the most suitable vector algorithm for medium-voltage and high-power applications. On the basis of achieving high performance, the algorithm overcomes the sensitivity to rotor parameters and is suitable for both energy-saving applications with square torque loads and process-oriented applications with constant torque loads.

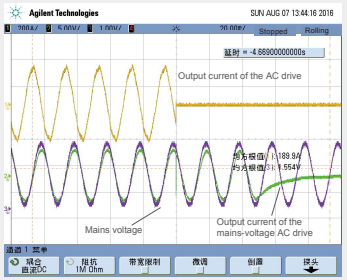
The sensorless field oriented control algorithm eliminates parameter dependance and makes operation more stable after the motor has been running for a long time.
The algorithm ensures efficient motor operation and greatly improves system efficiency.



Synchronous motor control expert: mastering the core control algorithms of all types of synchronous motors

The HD93S series synchronous motor-dedicated medium-voltage AC drive is applicable to brushed and brushless electrically excited synchronous motors, low-speed permanent magnet synchronous motor, and high-speed permanent magnet synchronous motor. It supports flux vector control (FVC) and speed sensorless vector control (SVC)

The AC drive features a 100% success rate of one-time startup, leading in the industry, SVC-controlled inversion-free startup, a large driving torque, and smooth operation.
Application to high-power electrically excited synchronous motors: 8000 kW sintering main exhaust fan of a steel plant in Hebei
Application to low-speed permanent magnet synchronous motor: ball mill in a cement factory in Zhejiang, belt conveyor in a port in Hebei, and compact mill in a rubber factory in Tianjin
Application to high-speed permanent magnet synchronous motor with maximum frequency: 720 Hz application of a motor test bed



Advanced syn-transfer technology

The HD9XS series medium-voltage AC drive implements synchronous switching for smooth load transfer with or without reactors. The switching current is less than 1.5 times the rated motor current.
The reactorless startup technology helps save more than 10% of the use cost and a lot of cabinet space.
A syn-transfer system can work with a third-party AC drive to implement soft startup and reduce repeated investment for customers.



Fast Catching spinning motor technology reducing unnecessary stop time on site

The HD9XS series medium-voltage AC drive quickly identifies the motor speed and drives the motor to the target frequency regardless of whether the motor is in the reverse running, forward running, or static state. It is especially suitable for applications such as water pumps and herringbone air ducts. The AC drive implements flying start within 250 ms at a speed 80% to 90% faster than the common system, and provides better protection against misoperation.

Strong R&D Team

Scientific and full-process management of R&D projects

Scientific product design guaranteed by advanced test platforms





Complete analysis and test facilities

Power device test platform
Analysis of extreme working conditions (stray inductance and temperature simulation) of power electronic devices
Analysis of large-capacity drive pre-research
Electrical finite element analysis platform
Simulation analysis of topological structures
Simulation analysis of bus current
Advanced algorithm simulation and comparative verification
Thermal simulation analysis

Investment guaranteed for innovation

3 R&D centers: Shenzhen, Suzhou, and Milan, Italy
10% of the sales revenue invested in R&D
1697 R&D engineers
746 patents, including 229 invention patents, 413 utility model patents, and 104 design patents
Inovance won TüV ETL certification in 2013. Its EMC and safety laboratory won the ACT qualification certificate of TüV SüD in Germany in 2016 and won CNAS certificate this year.

Inovance HD9XS Series

Product Code

HD 9X S - J 1 0 0 / 2 5 0 0 - D N
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Product categories: HD: Inovance power cells cascaded compact AC drive	④ Input voltage class: A- 1 kV B- 2.3 kV C- 3 kV D- 3.3 kV E- 4.2 kV F- 6 kV G- 6.6 kV H- 7.2 kV J- 10 kV K- 11 kV L- 13.8 kV	⑤ Output voltage: in the unit of kV For example, 060 indicates 6 kV.
② SN.: 90: general-purpose and vector-type (for asynchronous motor) 92: high-performance and vector-type (for asynchronous motor) 93: high-performance and vector-type (for synchronous motor)		⑥ Rated capacity of the AC drive: in the unit of kVA
③ S: new-generation medium-voltage compact AC drive with power cells connected in series		⑦ R: indicates that the AC drive has energy feedback. D: indicates that the AC drive does not have energy feedback.
		⑧ B: indicates that the power cell is configured with bypass. N: Without bypass

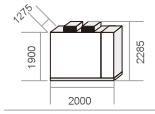
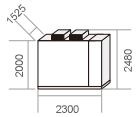
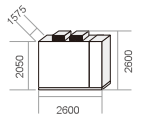
HD9XS Electrical Specifications

Two-quadrant Electrical Specifications

Item	Voltage	3.3–11 kV	
Input	Rated input voltage	Three-phase 50/60 Hz, 6 kV	Three-phase 50/60 Hz, 11 kV
	Voltage fluctuation	Full-load running at 6 kV/10 kV±10%; long-term running at –35% to –10% by applying derating	
	Frequency range	50 Hz±10%	
	Input voltage of power cells	690 V	
	Input power factor	≥ 0.95 (with load more than 20%)	
	Input current harmonics	≤ 4%, compliant with the IEEE519-1992 and GBT14549-93 standards	
Output	Output voltage range	0–11 kV	
	Output voltage of power cells	690 V	
	Output frequency range	0–50 Hz; max. 720 Hz; above 120 Hz as customized product	
	Speed regulation ratio	40:1 (universal vector); 100:1 (SVC); 200:1 (FVC)	
	Rotational speed accuracy	±0.5 % (SVC); ± 0.2 % (FVC)	
	Startup torque	0.5 Hz/150% (SVC); 0 Hz/180% (FVC)	
Technical solution		Power cells connected in series, AC-DC-AC, and high voltage input and output	
Control mode		Universal vector and SVC or FVC	
Rectification		Diode three-phase full bridge	
Inversion		IGBT inverter bridge	
Acceleration and deceleration time		0.1–6500s; > 6500s customizable	
Start/Stop control		Local or remote	
Control system		ARM, DSP, FPGA, and HMI	
Panel display		Touchscreen, English	
Overload capacity		120% of rated current, 1 minute	
Efficiency		≥ 96%	
Fuse equipped for the AC drive		A fuse on the input side of power cells	
Optical fiber adopted for the electrical isolation part		Yes	
Input filter required		No	
Output filter required		No	
Power factor compensation required		No	
Power cell protection		Overvoltage, undervoltage, input phase loss, overcurrent, overtemperature, and communication	
System protection		Motor overload, output overload, output short circuit, output grounding, input overcurrent, input overvoltage, input imbalance, input grounding, cooling fan fault alarm, door switch interlock protection, transformer overheat alarm, transformer overheat trip, and transformer secondary short circuit protection	
Mean time between failures (MTBF)		50,000 hours	
Communication interface		Modbus-RTU, CANlink, Profibus-DP	
Digital input		10 inputs, relay dry contact	
Digital output		16 outputs, relay dry contact	
Analog input		4 inputs, 4–20 mA or 0–10 V	
Analog output		5 outputs, 4–20 mA or 0–10 V	
Service environment		Indoor	
Ambient temperature		–10°C to +40°C; derating at 40°C to 50°C; preheating before startup below –10°C	
Ambient humidity		5–95%, non-condensing	
Altitude		≤ 1000 m; derating at more than 1000 m. Specify the altitude when ordering.	
Total noise of equipment		≤ 80dB	
Cooling		Forced air cooling	
IP rating		IP30	
Cabinet type		GGD combined type	
Cable entry and exit method		Lower cable entry and exit, or customized configuration	
Control power supply		380 V±10% AC, three-phase and four-wire	

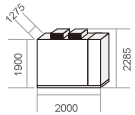
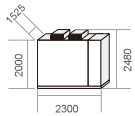
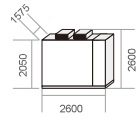
HD9XS Dimensions

Two-quadrant Dimensions | 3.3 kV Series Installation Specifications

Dimension Reference	Motor Power (kW)	Model	Nominal Capacity (kVA)	Dimensions (Width x Depth x Height, in mm)	Weight (kg)
	250	HD9XS-D033/315	315	2000 x 1275 x 1900	946
	280	HD9XS-D033/355	355	2000 x 1275 x 1900	1046
	315	HD9XS-D033/400	400	2000 x 1275 x 1900	1146
	355	HD9XS-D033/450	450	2300 x 1525 x 2000	1246
	400	HD9XS-D033/500	500	2300 x 1525 x 2000	1346
	450	HD9XS-D033/560	560	2300 x 1525 x 2000	1446
	500	HD9XS-D033/630	630	2300 x 1525 x 2000	1546
	560	HD9XS-D033/710	710	2300 x 1525 x 2000	1646
	630	HD9XS-D033/800	800	2300 x 1525 x 2000	1923
	710	HD9XS-D033/900	900	2300 x 1525 x 2000	2077
	800	HD9XS-D033/1000	1000	2600 x 1575 x 2050	2231
	900	HD9XS-D033/1120	1120	2600 x 1575 x 2050	2385
	1000	HD9XS-D033/1250	1250	2600 x 1575 x 2050	2538
	1120	HD9XS-D033/1400	1400	2600 x 1575 x 2050	2692
	1250	HD9XS-D033/1600	1600	2600 x 1575 x 2050	2846

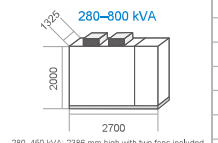
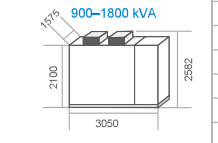
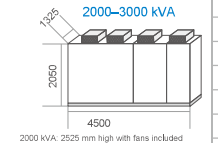
HD9XS Dimensions

Two-quadrant Dimensions | 6 kV Series Installation Specifications

Dimension Reference	Motor Power (kW)	Model	Nominal Capacity (kVA)	Dimensions (Width x Depth x Height, in mm)	Weight (kg)
	250	HD9XS-F060/315	315	2000 x 1275 x 1900	1230
	280	HD9XS-F060/355	355	2000 x 1275 x 1900	1360
	315	HD9XS-F060/400	400	2000 x 1275 x 1900	1490
	355	HD9XS-F060/450	450	2000 x 1275 x 1900	1620
	400	HD9XS-F060/500	500	2000 x 1275 x 1900	1750
	450	HD9XS-F060/560	560	2000 x 1275 x 1900	1880
	500	HD9XS-F060/630	630	2000 x 1275 x 1900	2010
	560	HD9XS-F060/710	710	2000 x 1275 x 1900	2140
	630	HD9XS-F060/800	800	2300 x 1525 x 2000	2500
	710	HD9XS-F060/900	900	2300 x 1525 x 2000	2700
	800	HD9XS-F060/1000	1000	2300 x 1525 x 2000	2900
	900	HD9XS-F060/1120	1120	2300 x 1525 x 2000	3100
	1000	HD9XS-F060/1250	1250	2300 x 1525 x 2000	3300
	1120	HD9XS-F060/1400	1400	2300 x 1525 x 2000	3500
	1250	HD9XS-F060/1600	1600	2300 x 1525 x 2000	3700
	1400	HD9XS-F060/1800	1800	2600 x 1575 x 2050	3945
	1600	HD9XS-F060/2000	2000	2600 x 1575 x 2050	4515
	1800	HD9XS-F060/2250	2250	2600 x 1575 x 2050	4835
	2000	HD9XS-F060/2500	2500	2600 x 1575 x 2050	5135
	2250	HD9XS-F060/2800	2800	2600 x 1575 x 2050	5500

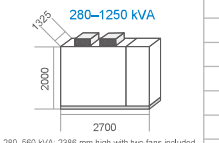
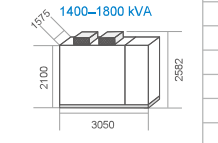
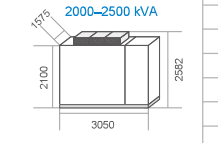
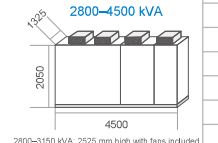
HD9XS Dimensions

Two-quadrant Dimensions | 6.6 kV Series Installation Specifications

Dimension Reference	Motor Power (kW)	Model	Nominal Capacity (kVA)	Dimensions (Width x Depth x Height, in mm)	Weight (kg)
 280–450 kVA: 2386 mm high with two fans included 500–560 kVA: 2386 mm high with three fans included 630–800 kVA: 2482 mm high with two fans included	220	HD9XS-G066/280	280	2700 x 1325 x 2000	1800
	250	HD9XS-G066/315	315	2700 x 1325 x 2000	1814
	280	HD9XS-G066/355	355	2700 x 1325 x 2000	1829
	315	HD9XS-G066/400	400	2700 x 1325 x 2000	1843
	355	HD9XS-G066/450	450	2700 x 1325 x 2000	1857
	400	HD9XS-G066/500	500	2700 x 1325 x 2000	1871
	450	HD9XS-G066/560	560	2700 x 1325 x 2000	1886
	500	HD9XS-G066/630	630	2700 x 1325 x 2000	1971
 900–1800 kVA: 2582 mm high with two fans included 1400–1800 kVA: 2582 mm high with three fans included	560	HD9XS-G066/710	710	2700 x 1325 x 2000	2043
	630	HD9XS-G066/800	800	2700 x 1325 x 2000	2114
	710	HD9XS-G066/900	900	3050 x 1575 x 2100	2264
	800	HD9XS-G066/1000	1000	3050 x 1575 x 2100	2407
	900	HD9XS-G066/1120	1120	3050 x 1575 x 2100	2550
	1000	HD9XS-G066/1250	1250	3050 x 1575 x 2100	2693
	1120	HD9XS-G066/1400	1400	3050 x 1575 x 2100	3343
 2000 kVA: 2525 mm high with fans included 2250–3000 kVA: 2600 mm high with fans included	1250	HD9XS-G066/1600	1600	3050 x 1575 x 2100	3486
	1400	HD9XS-G066/1800	1800	3050 x 1575 x 2100	3629
	1600	HD9XS-G066/2000	2000	4500 x 1325 x 2050	3771
	1800	HD9XS-G066/2250	2250	4500 x 1325 x 2050	3914
	2000	HD9XS-G066/2500	2500	4500 x 1325 x 2050	4057
	2240	HD9XS-G066/2800	2800	4500 x 1325 x 2050	5307
	2400	HD9XS-G066/3000	3000	4500 x 1325 x 2050	5514

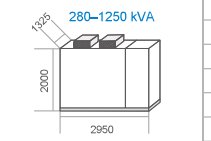
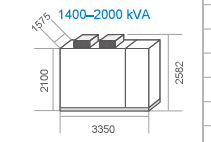
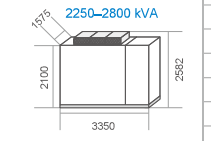
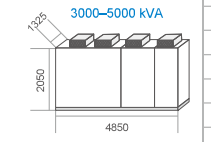
HD9XS Dimensions

Two-quadrant Dimensions | 10 kV Series Installation Specifications

Dimension Reference	Motor Power (kW)	Model	Nominal Capacity (kVA)	Dimensions (Width x Depth x Height, in mm)	Weight (kg)
 280–560 kVA: 2386 mm high with two fans included 630–800 kVA: 2386 mm high with three fans included 900–1250 kVA: 2482 mm high with two fans included	220	HD9XS-J100/280	280	2700 x 1325 x 2000	2520
	250	HD9XS-J100/315	315	2700 x 1325 x 2000	2540
	280	HD9XS-J100/355	355	2700 x 1325 x 2000	2560
	315	HD9XS-J100/400	400	2700 x 1325 x 2000	2580
	355	HD9XS-J100/450	450	2700 x 1325 x 2000	2600
	400	HD9XS-J100/500	500	2700 x 1325 x 2000	2620
	450	HD9XS-J100/560	560	2700 x 1325 x 2000	2640
	500	HD9XS-J100/630	630	2700 x 1325 x 2000	2760
	560	HD9XS-J100/710	710	2700 x 1325 x 2000	2860
	630	HD9XS-J100/800	800	2700 x 1325 x 2000	2960
	710	HD9XS-J100/900	900	2700 x 1325 x 2000	3170
	800	HD9XS-J100/1000	1000	2700 x 1325 x 2000	3370
	900	HD9XS-J100/1120	1120	2700 x 1325 x 2000	3570
	1000	HD9XS-J100/1250	1250	2700 x 1325 x 2000	3770
	1120	HD9XS-J100/1400	1400	3050 x 1575 x 2100	4680
	1250	HD9XS-J100/1600	1600	3050 x 1575 x 2100	4880
	1400	HD9XS-J100/1800	1800	3050 x 1575 x 2100	5080
	1600	HD9XS-J100/2000	2000	3050 x 1575 x 2100	5280
	1800	HD9XS-J100/2250	2250	3050 x 1575 x 2100	5480
	2000	HD9XS-J100/2500	2500	3050 x 1575 x 2100	5680
 2800–3150 kVA: 2525 mm high with fans included 3500–4500 kVA: 2600 mm high with fans included	2240	HD9XS-J100/2800	2800	4500 x 1325 x 2050	7430
	2400	HD9XS-J100/3000	3000	4500 x 1325 x 2050	7720
	2500	HD9XS-J100/3150	3150	4500 x 1325 x 2050	7760
	2800	HD9XS-J100/3500	3500	4500 x 1325 x 2050	7870
	3000	HD9XS-J100/3750	3750	4500 x 1325 x 2050	7950
	3150	HD9XS-J100/4000	4000	4500 x 1325 x 2050	8470
	3550	HD9XS-J100/4500	4500	4500 x 1325 x 2050	8500

HD9XS Dimensions

Two-quadrant Dimensions | 11 kV Series Installation Specifications

Dimension Reference	Motor Power (kW)	Model	Nominal Capacity (kVA)	Dimensions (Width x Depth x Height, in mm)	Weight (kg)
 280–560 kVA: 2386 mm high with two fans included 630–800 kVA: 2386 mm high with three fans included 900–1250 kVA: 2482 mm high with two fans included	220	HD9xS-K110/280	280	2950 x 1375 x 2000	2650
	250	HD9xS-K110/315	315	2950 x 1375 x 2000	2670
	280	HD9xS-K110/355	355	2950 x 1375 x 2000	2690
	315	HD9xS-K110/400	400	2950 x 1375 x 2000	2680
	355	HD9xS-K110/450	450	2950 x 1375 x 2000	2730
	400	HD9xS-K110/500	500	2950 x 1375 x 2000	2750
	450	HD9xS-K110/560	560	2950 x 1375 x 2000	2770
	500	HD9xS-K110/630	630	2950 x 1375 x 2000	2840
	560	HD9xS-K110/710	710	2950 x 1375 x 2000	3000
	630	HD9xS-K110/800	800	2950 x 1375 x 2000	3110
	710	HD9xS-K110/900	900	2950 x 1375 x 2000	3330
	800	HD9xS-K110/1000	1000	2950 x 1375 x 2000	3540
	900	HD9xS-K110/1120	1120	2950 x 1375 x 2000	3750
	1000	HD9xS-K110/1250	1250	2950 x 1375 x 2000	3960
	1120	HD9xS-K110/1400	1400	3350 x 1575 x 2100	4910
	1250	HD9xS-K110/1600	1600	3350 x 1575 x 2100	5120
	1400	HD9xS-K110/1800	1800	3350 x 1575 x 2100	5330
	1600	HD9xS-K110/2000	2000	3350 x 1575 x 2100	5540
	1800	HD9xS-K110/2250	2250	3350 x 1575 x 2100	5660
	2000	HD9xS-K110/2500	2500	3350 x 1575 x 2100	5870
 3000–3500 kVA: 2532 mm high with fans included 3750–4500 kVA: 2600 mm high with fans included	2240	HD9XS-K110/2800	2800	3350 x 1575 x 2101	7010
	2400	HD9XS-K110/3000	3000	4850 x 1325 x 2050	8110
	2500	HD9XS-K110/3150	3150	4850 x 1325 x 2050	8150
	2800	HD9XS-K110/3500	3500	4850 x 1325 x 2050	8260
	3000	HD9XS-K110/3750	3750	4850 x 1325 x 2050	8310
	3150	HD9XS-K110/4000	4000	4850 x 1325 x 2050	8660
	3550	HD9XS-K110/4500	4500	4850 x 1325 x 2050	8910
	4000	HD9XS-K110/5000	5000	4850 x 1325 x 2050	9180

Note:

- The AC drive capacity can be adjusted based on user requirements and onsite requirements.
- The preceding dimensions and weights are for reference only. The specific dimensions and weights are subject to the technical agreement.
- The input voltage and output voltage are the same in the standard series.
- The height in Dimensions does not include the fan height, which ranges from 300 mm to 600 mm.
- The preceding dimensions and weights include the control cabinet, power cell cabinet, and transformer cabinet, but exclude the bypass cabinet.
- The distance from the front of the AC drive to the wall must be at least 1500 mm, that from the back of the AC drive to the wall must be at least 1000 mm, that from the side of the AC drive to the wall must be at least 800 mm, and that from the top of the AC drive to the roof must be at least 1000 mm.