APT INDUSTRIAL CHILLER

TECHNICAL DATASHEET REFERENCE • 3325

Industrial Chiller Export Voltage Configuration Reference

Technical reference for export industrial chiller voltage configuration, including 220V, 380V, 400V, 415V, 460V, 480V, 50Hz, 60Hz, single phase, three phase, control voltage, transformer options, and electrical component matching.

- Voltage / Phase / Frequency
- Compressor Compatibility
- Pump and Fan Motor Review
- Control Panel and Transformer

TECHNICAL DATASHEET PREVIEW

Document Role: preliminary engineering reference for industrial chiller export voltage and electrical configuration review.

DATASHEET TYPE

CHILLER CATEGORY

MAIN VOLTAGE SCOPE

FREQUENCY SCOPE

PHASE SCOPE

KEY REVIEW

BEFORE PRODUCTION

This datasheet is for preliminary export electrical configuration review. Final selection should be confirmed according to the actual site voltage, local electrical requirement, compressor availability, pump and fan motor data, control voltage, and protection design.

sales@applied-chiller.com
https://applied-chiller.com/

Industrial Chiller Export Voltage Configuration Matrix

Voltage should be reviewed as a complete electrical configuration, not as a single number. The compressor, pump, condenser fan, control panel, transformer, and protection devices must match the project power supply.

CONFIGURATION AREA	REFERENCE DATA	PROJECT REVIEW NOTES
Main Power Supply	220V, 380V, 400V, 415V, 460V, 480V, or project-defined	Confirm actual site voltage instead of relying only on country standard voltage.
Phase	Single phase or three phase	Most industrial chillers use three phase power; small compact chillers may use single phase power.
Frequency	50Hz or 60Hz	Frequency affects compressor, pump, fan, electrical protection, and operating performance.
Compressor Voltage	Matched according to compressor model and refrigerant circuit	Compressor availability must be confirmed before final quotation and production.
Pump Motor	Matched according to voltage, phase, frequency, flow, and pressure	High pressure or stainless steel pumps may require separate motor confirmation.
Condenser Fan	Selected according to voltage, frequency, airflow, and ambient condition	Air cooled chillers require correct fan motor configuration and protection.
Control Voltage	24V / 110V / 220V / project-reviewed	Control voltage should match maintenance preference and local electrical practice.
Transformer	Used when control voltage differs from main power supply	Transformer load, panel space, heat, and maintenance access should be reviewed.
Protection Devices	Breaker, contactor, overload relay, phase sequence protector, alarm devices	Protection settings should match final electrical configuration and motor current.
Wiring and Terminal	Terminal connection and wiring diagram according to final design	Cable entry, terminal layout, and local service requirements should be confirmed.

Selection note: an industrial chiller electrical configuration should be finalized before purchasing compressors, pumps, fans, contactors, overload relays, transformers, controllers, and cabinet components.

Common Industrial Voltage Reference by Market

Country voltage is only a reference. Export industrial chiller voltage configuration should be checked against the actual installation site, equipment standard, and local electrical requirement.

MARKET / REGION	COMMON REFERENCE VOLTAGE	FREQUENCY	PROJECT REVIEW NOTES
China and many Asian industrial projects	380V / 3 Phase	50Hz	Common base configuration for many APT industrial chillers.
Europe and international projects	400V / 3 Phase	50Hz	Confirm tolerance, neutral line, and local panel requirement.
UK, Australia, Middle East references	415V / 3 Phase	50Hz	Compressor and motor compatibility should be checked before production.
North America industrial projects	460V / 480V / 3 Phase	60Hz	Confirm exact voltage, frequency, compressor availability, and protection requirement.
Small equipment cooling	220V / 1 Phase	50Hz / 60Hz	Check current limit, plug or terminal design, compressor start current, and capacity range.
Specific regional industrial power systems	220V / 3 Phase	50Hz / 60Hz	Confirm component availability and final electrical drawings.
Marine, offshore, OEM, special sites	Project-defined	Project-defined	Electrical drawings, standards, cable entry, controls, and protection should be reviewed.

VOLTAGE OPTION	TYPICAL PURPOSE	INFORMATION REQUIRED
380V / 3 Phase / 50Hz	Common industrial chiller configuration for many projects	Confirm whether the site accepts 380V 50Hz power supply.
400V / 415V / 3 Phase / 50Hz	Support European, UK, Australian, Middle East, and international installations	Confirm site voltage, tolerance, and local electrical requirement.
460V / 480V / 3 Phase / 60Hz	Support North American industrial power systems	Confirm exact voltage, frequency, compressor availability, and protection requirement.
Built-in Transformer	Adapt control voltage or special electrical requirement	Main voltage, control voltage, load, panel space, and maintenance preference.

Compressor, Pump, and Fan Motor Voltage Reference

Main electrical components should be confirmed as a matched set. A voltage option is not final until compressor, pump, fan, and protection compatibility are reviewed together.

COMPRESSOR ITEM	REFERENCE DATA	PROJECT REVIEW NOTES
Compressor Type	Scroll, semi-hermetic, screw, or project-selected	Selected according to cooling capacity, refrigerant, voltage, and operating duty.
Compressor Voltage	380V, 400V, 415V, 460V, 480V, or project-defined	Final compressor model must be checked against actual voltage and frequency.
Frequency	50Hz / 60Hz	Operating performance and current may differ between 50Hz and 60Hz.
Starting Method	Direct start, soft start, inverter, or project-defined	Starting current and local power capacity should be reviewed for larger chillers.
Protection	Overload, phase loss, high/low pressure, thermal protection if required	Protection settings must match compressor current and final circuit design.

MOTOR ITEM	REFERENCE DATA	PROJECT REVIEW NOTES
Pump Motor	Matched according to voltage, phase, frequency, flow, and pressure	Motor current and protection settings should match the final electrical configuration.
Special Pump	High pressure pump or stainless steel pump	May need separate voltage confirmation and supplier review.
Condenser Fan	Selected according to voltage, frequency, airflow, and ambient condition	Air cooled chillers require correct fan motor data and thermal protection review.
External Pump	Customer-side or APT-supplied pump package	Confirm whether pump control is inside the chiller panel or separated.
Motor Protection	Overload protection, phase protection, thermal protection if required	Protection devices should be selected after motor data is fixed.

> Review note: for export chillers, compressor voltage and frequency are usually the first electrical constraints. Pump and fan motors can often be selected after the cooling circuit, flow, pressure, and ambient condition are confirmed.

Control Panel and Transformer Reference

Control voltage, transformer requirement, protection layout, and wiring design should match the local service environment and final electrical specification.

ITEM	REFERENCE DATA	PROJECT REVIEW NOTES
Control Voltage	24V / 110V / 220V / project-reviewed	Control voltage and electrical protection should match local service and maintenance requirements.
Transformer	Used when control voltage differs from main power supply	Review transformer load, panel space, heat dissipation, and maintenance access.
Controller	Temperature controller, PLC, or custom control system	Selected according to temperature control, alarm, communication, and interface needs.
Protection Devices	Breaker, contactor, overload relay, phase sequence protector	Final selection should match component current and project electrical standard.
Remote Control Panel	Optional for special installation or hazardous area requirement	Confirm cable length, control signal, installation location, and environment.
Wiring	Terminal connection and wiring diagram according to final design	Terminal markings, cable entry, grounding, and service access should be reviewed.
Documentation	Electrical drawing, wiring diagram, component list, datasheet	Project-specific documentation can be prepared after final configuration confirmation.

Confirm Site Voltage

Check the actual voltage available at the installation site, not only the country standard.

Confirm Phase

Confirm whether the site supply is single phase or three phase before selecting electrical components.

Confirm Frequency

Confirm whether the project requires 50Hz or 60Hz compressors, pumps, fans, and protection devices.

Confirm Voltage Stability

For unstable power supply, additional protection or transformer options may be reviewed.

Confirm Local Requirement

Some projects require specific standards, certification, cable entry, or protection devices.

Confirm Before Production

Voltage configuration should be finalized before purchasing electrical and refrigeration components.

Applications Where Export Voltage Review Is Important

Voltage configuration review is especially important for high-power equipment, continuous-duty production, export OEM systems, special environments, and projects where multiple cooling circuits or controls are connected.

APPLICATION	WHY VOLTAGE REVIEW MATTERS	RELATED PAGE
Thermal Spray Cooling	Thermal spray systems often involve high-power equipment, continuous operation, and multiple cooling circuits. Voltage and frequency should be confirmed before chiller selection.	/thermal-spray-cooling-system/
Laser Cooling	Laser chillers require stable power supply, accurate temperature control, and correct pump and controller voltage matching.	/laser-chiller/
Injection Molding Cooling	Injection molding workshops may use different regional industrial power systems, especially for export production lines.	/injection-molding-chiller/
Chemical Process Cooling	Chemical process cooling projects may require special electrical protection, remote control panels, or explosion-proof design.	/chemical-process-cooling/
Die Casting Cooling	High heat load and harsh workshop conditions make correct voltage, pump, fan, and protection selection important.	/die-casting-chiller/
Custom Industrial Chiller	Custom chillers often require project-specific voltage, control, communication, and electrical protection review.	/custom-chiller-solutions/

RELATED TECHNICAL DATASHEET PAGE	USE FOR REVIEW	URL
Industrial Chiller Technical Datasheets	Main datasheet center	/technical-datasheets/
Air Cooled Industrial Chiller Datasheets	Air cooled model and capacity reference	/air-cooled-industrial-chiller-datasheets/
Water Cooled Industrial Chiller Datasheets	Water cooled system and condenser water reference	/water-cooled-industrial-chiller-datasheets/
Custom Industrial Chiller Datasheets	Special voltage, layout, material, and project requirement reference	/custom-industrial-chiller-datasheets/
Chiller Parts & Heat Exchanger Datasheets	Component and replacement part matching reference	/chiller-parts-heat-exchanger-datasheets/

PAGE 7 • REQUEST CHECKLIST

Information Needed Before Requesting an Export Voltage Configuration

Use this checklist before requesting an industrial chiller export voltage configuration review or project-specific electrical datasheet.

1. Installation country	2. Actual site voltage
3. Phase: single phase or three phase	4. Frequency: 50Hz or 60Hz
5. Whether neutral line is available	6. Site power stability information if available
7. Required cooling capacity	8. Chiller type: air cooled or water cooled
9. Pump flow and pressure requirement	10. Application equipment type
11. Indoor or outdoor installation	12. Ambient temperature
13. Required control voltage if specified	14. Local electrical standard or certification requirement
15. Special protection requirement	16. Photos of existing electrical panel if replacing an old chiller

Request Voltage Configuration Review

Send the country, site voltage, phase, frequency, and application details to APT for export industrial chiller voltage configuration review.

FINAL REVIEW ITEM	WHY IT MATTERS	BEFORE PRODUCTION
Main power	Defines compressor, motor, protection, cable, and terminal selection	Must be fixed before component purchase
Control voltage	Affects transformer, controller, relay, and maintenance practice	Should match site service requirement
Voltage tolerance	Unstable voltage can affect compressor and motor reliability	May require additional protection review
Electrical documentation	Supports installation, maintenance, and customer approval	Prepared according to final design

Industrial Chiller Export Voltage FAQ

These questions help customers confirm export industrial chiller voltage before quotation, production, and installation.

Why does voltage need to be confirmed before ordering an industrial chiller?

Voltage must be confirmed because compressors, pumps, fans, controllers, contactors, protection devices, and wiring design must match the actual site power supply.

Can an industrial chiller be supplied with 380V 50Hz?

Yes. 380V 3 phase 50Hz is a common industrial chiller configuration, but the final voltage should still be confirmed according to the project site.

Can APT provide 400V or 415V industrial chillers?

Yes. APT can review 400V or 415V 3 phase 50Hz configurations for export projects after confirming the site electrical requirements.

Can APT provide 460V or 480V 60Hz chillers?

Yes. APT can review 460V or 480V 3 phase 60Hz chiller configurations, including compressor, pump, fan, and electrical component compatibility.

Is country voltage information enough for chiller production?

No. Country voltage information is only a reference. The actual site voltage, phase, frequency, and local electrical requirements should be confirmed before production.

Does frequency affect chiller selection?

Yes. 50Hz and 60Hz systems may require different compressor, pump, fan, and protection selections. The operating performance should be reviewed according to frequency.

Can a transformer be used for an export chiller?

Yes. A transformer may be reviewed when control voltage or site voltage adaptation is required, but it should be selected according to load, safety, panel space, and maintenance requirements.

Can small chillers use single phase power?

Some small chillers can use single phase power, but cooling capacity, compressor current, and site wiring limits must be checked carefully.

What electrical information is needed before quotation?

APT usually needs the installation country, site voltage, phase, frequency, neutral line condition, cooling capacity, application, and any local electrical standard or protection requirement.

Can APT prepare a project-specific export voltage datasheet?

Yes. APT can prepare a project-specific industrial chiller voltage configuration datasheet after reviewing the project power supply and application requirements.

Need an Export Voltage Datasheet for Your Chiller Project?

Send the installation country, site voltage, phase, frequency, cooling capacity, chiller type, pump requirement, control voltage, and application equipment details for engineering review.

sales@applied-chiller.com | https://applied-chiller.com/