PST®

Pars Sanat Tahvieh co.

Product Guide 2024

PROCESS COOLING SOLUTIONS

AIR CONDITIONING SYSTEMS

Experience the
Best in **Heating** & **Cooling** Solutions

PSTHVAC.COM

WELCOME

Pars Sanat Tahvieh co.

Welcome to PST HVAC Solutions

At PST, we take pride in providing the best HVAC solutions for industrial, commercial, and residential environments. With years of experience and the use of cutting-edge technology, our products are designed to deliver the best performance, efficiency, and comfort for you.

Why Choose PST?

- **Expertise and Experience:** With over 20 years in the HVAC industry, we lead the way in offering innovative and efficient solutions for our customers.
- **Superior Quality:** Our products are manufactured using the best materials and the latest technologies to ensure the highest level of quality and durability.
- **Excellent Support:** Our support team is ready to provide consultation, installation, and maintenance services, ensuring we are always by your side.

Our Products:

Residential and Commercial Chillers:

- High efficiency and optimized energy consumption
- Robust design and long lifespan
- Silent and reliable operation

Process Cooling System :

- Ideal for large and commercial buildings
- Smart systems with temperature and humidity control
- Easy installation and maintenance.

Fan Coil Units and Air Handlers:

- Suitable for residential and office environments
- Elegant and quiet design
- Precise temperature control capabilities

Our Mission:

At PST, our mission is to provide the best HVAC solutions to create comfortable, healthy, and efficient environments for all our customers. By focusing on innovation, quality, and customer satisfaction, we strive to be your top choice always.

CONTENTS

Standards and Certifications

Our commitment to quality, safety, and environmental responsibility is reflected in the rigorous standards and certifications we adhere to. Explore the key standards that ensure our HVAC products meet the highest levels of performance, reliability, and sustainability.

ISO 9001

Quality Management Systems

Overview:

☑ ISO 9001 is an internationally recognized standard for quality management systems (QMS). It ensures that our products and services consistently meet customer and regulatory requirements.

Benefits:

☑ Improved customer satisfaction through effective quality management
☑ Enhanced operational efficiency and process improvement
☑ Increased credibility and competitive advantage

Application:

☑ All aspects of our manufacturing, design, and service processes are aligned with ISO 9001 standards, ensuring consistent quality and continuous improvement.

ISO 14001

Environmental Management Systems

Overview:

☑ ISO 14001 specifies the requirements for an effective environmental management system (EMS). It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste.

Benefits:

☑ Reduced environmental impact and improved sustainability
☑ Compliance with environmental regulations
☑ Enhanced corporate reputation and stakeholder confidence

Application:

☑ Our production processes, waste management, and resource utilization are designed to minimize environmental impact and comply with ISO 14001 standards.

ISO 45001

Occupational Health and Safety Management Systems

Overview:

☑ ISO 45001 provides a framework for managing occupational health and safety (OH&S) risks, preventing work-related injuries and illnesses, and promoting safe and healthy workplaces.

Benefits:

☑ Improved employee safety and well-being
☑ Reduced risk of accidents and incidents
☑ Enhanced organizational resilience and compliance with legal requirements

Application:

☑ We implement comprehensive safety protocols and training programs to ensure a safe working environment for our employees, in line with ISO 45001 standards.

AHRI

(Air-Conditioning, Heating, and Refrigeration Institute) Standards

Overview:

☑ AHRI standards are widely recognized in the HVAC industry for ensuring the performance and efficiency of heating, air conditioning, and refrigeration products.

Benefits:

☑ Verified product performance and energy efficiency
☑ Increased trust and assurance for customers and stakeholders
☑ Compliance with industry benchmarks and regulations

Application:

☑ Our HVAC products undergo rigorous testing and certification processes to meet AHRI standards, ensuringthey deliver reliable performance and energy efficiency.

ASHRAE

(American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standards

Overview:

☑ ASHRAE standards are essential for the design and implementation of HVAC systems, ensuring they meet performance, safety, and sustainability criteria.

Benefits:

☑ Optimal system design and operation for energy efficiency
☑ Enhanced indoor air quality and occupant comfort
☑ Compliance with industry best practices and guidelines

Application:

☑ We adhere to ASHRAE standards in the design, installation, and maintenance of our HVAC systems, ensuring they provide efficient and reliable climate control solutions.

Refrigerants

Refrigerants play a crucial role in the efficiency, performance, and environmental impact of HVAC systems. Explore the different types of refrigerants we use in our chillers and understand their benefits and applications.

R-134a

Overview:

☑ R-134a is another HFC refrigerant known for its stability and efficiency. It is a single-component refrigerant commonly used in various cooling applications.

Benefits:

☑ Thermal Stability: R-134a is thermally stable and does not break down under normal operating conditions, ensuring long-term performance.

☑ Non-Flammable: It is non-flammable and safe to use in a wide range of applications.

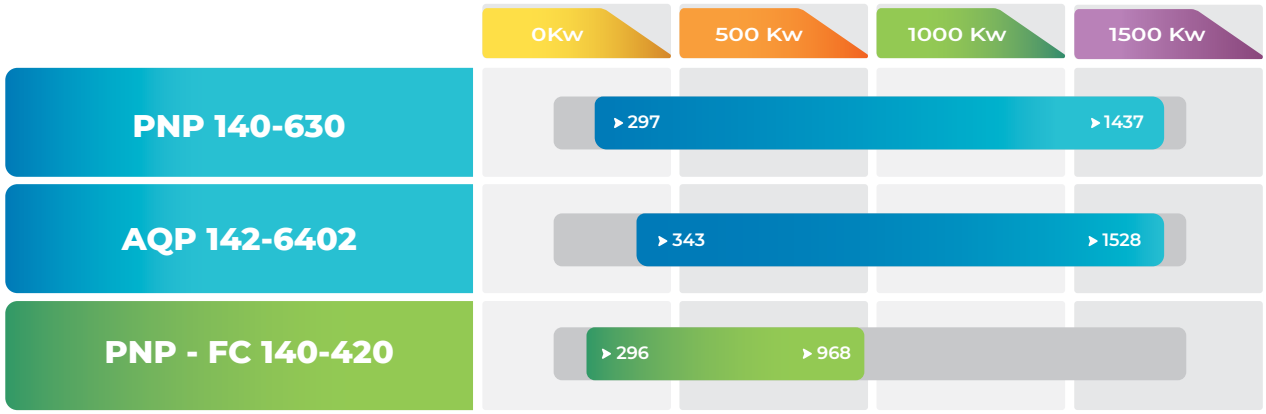
☑ Ozone-Friendly: Like R-410A, R-134a has zero ozone depletion potential, contributing to environmental sustainability.

Application:

☑ Suitable for medium and large chillers, automotive air conditioning, and commercial refrigeration systems.

Commercial and industrial chillers

R-134 A



R-410A

Overview:

☑ R-410A is a hydrofluorocarbon (HFC) refrigerant that is widely used in modern HVAC systems due to its high efficiency and environmentally friendly properties. It is a blend of two HFCs, R-32 and R-125.

Benefits:

☑ **High Efficiency:** R-410A operates at higher pressures, allowing for better heat transfer and improved energy efficiency.

☑ **Ozone-Friendly:** R-410A has zero ozone depletion potential (ODP), making it an environmentally friendly choice.

☑ **Widely Available:** It is commonly used in residential, commercial, and industrial HVAC systems, ensuring easy availability and support.

Application:

☑ Ideal for use in residential and commercial air conditioning systems, as well as in smaller chillers designed for medium-duty applications.

Commercial and industrial chillers

R-410 A

Safety Features of HVAC Systems at PST

At PST, we prioritize the safety of our HVAC systems to ensure the well-being of our customers, technicians, and the environments where our products are installed. Our commitment to safety is reflected in the rigorous design, manufacturing, and testing processes that our products undergo. Here's a detailed overview of the safety features and practices we implement to ensure the highest levels of safety for our HVAC systems.

.1 Comprehensive Safety Design

Overview:

- **Safety begins at the design stage:** Our engineering team integrates various safety features into the design of each HVAC system to prevent accidents and ensure reliable operation.

Key Features:

- **Safety Sensors and Switches:** Our systems are equipped with various sensors and switches that monitor temperature, pressure, and airflow to prevent dangerous conditions.

Automatic Shutoff Mechanisms:

- In the event of a malfunction or abnormal condition, our HVAC systems are designed to automatically shut off to prevent damage or safety hazards.

Fire-Resistant Materials:

- We use fire-resistant materials in critical components to minimize the risk of fire and enhance the overall safety of the system.

.2 Rigorous Manufacturing Standards

Overview:

- Our manufacturing processes are designed to ensure that every HVAC system meets stringent safety standards. We adhere to internationally recognized safety protocols and use high-quality materials to enhance the safety of our products.

User Safety:

- **Quality Control Checks:** Throughout the manufacturing process, we conduct rigorous quality control checks to ensure that each component meets our safety standards.

Safe Assembly Procedures:

- Our assembly procedures are designed to prevent errors and ensure that each unit is built to the highest safety specifications.

Use of Certified Components:

- We source components from reputable suppliers who meet international safety standards, ensuring the reliability and safety of our HVAC systems.

.3 Extensive Testing and Validation

Overview:

- Before any HVAC system leaves our factory, it undergoes extensive testing to ensure it operates safely under all expected conditions. These tests are designed to identify and mitigate potential safety risks.

Testing Procedures:

- **Electrical Safety Tests:** We conduct tests to ensure that all electrical components and connections are safe and meet regulatory standards.

Pressure Tests:

- Our systems undergo pressure testing to verify the integrity of refrigerant and water circuits, preventing leaks and potential hazards.

Fire Safety Tests:

- We test our systems to ensure they comply with fire safety regulations and standards, reducing the risk of fire-related incidents.

.4 Compliance with Safety Standards and Certifications

Overview:

- Compliance with international safety standards and certifications is a key aspect of our commitment to safety. Our HVAC systems meet or exceed the requirements of various regulatory bodies.

Certifications:

- **UL (Underwriters Laboratories):** Our products are certified by UL, ensuring they meet stringent safety standards for electrical devices.
- **CE Marking:** Our HVAC systems carry the CE marking, indicating compliance with European safety, health, and environmental protection standards.
- **ISO 45001:** Our occupational health and safety management system is certified to ISO 45001, ensuring a safe working environment and product safety.

.5 User and Technician Safety Features

Overview:

- We design our HVAC systems with features that protect both users and technicians during operation and maintenance.

User Safety:

- Tamper-Proof Controls: Our systems include tamper-proof controls to prevent unauthorized access and accidental adjustments.
- Safe Operating Instructions: We provide clear and comprehensive operating instructions to ensure safe use of our HVAC systems.

Technician Safety:

- **Service Access Panels:** Our systems are designed with service access panels that allow technicians to perform maintenance and repairs safely and efficiently.

Safety Interlocks:

- These interlocks prevent the system from operating while maintenance is being performed, protecting technicians from injury.

.6 Ongoing Safety Training and Support

Overview:

- We provide ongoing safety training and support to our customers and service partners to ensure the safe operation and maintenance of our HVAC systems.

Training Programs:

- **Installation Training:** We offer comprehensive training programs for technicians on the safe installation of our HVAC systems.
- **Maintenance Training:** Our maintenance training programs teach technicians how to safely service and repair our systems, ensuring they remain in safe operating condition.
- **Safety Seminars:** We conduct safety seminars and workshops to keep our customers and partners informed about the latest safety practices and standards.

Quality of HVAC Systems at PST

At PST, we are committed to delivering HVAC systems of the highest quality. Our dedication to excellence in design, manufacturing, and customer service ensures that our products meet the rigorous demands of various applications while providing optimal performance, reliability, and efficiency. Here's a comprehensive overview of the quality aspects of our HVAC systems.

.1 Rigorous Quality Control Processes

Overview:

- Safety begins at the design stage. Our engineering team integrates various safety features into the design of Ensuring the highest quality standards is central to our manufacturing process. Our quality control procedures are designed to detect and eliminate defects, ensuring that every product that leaves our facility is flawless.

Processes:

- Incoming Material Inspection: All raw materials and components undergo thorough inspection before entering production to ensure they meet our quality standards.
- In-Process Quality Checks: During production, each step is monitored with strict quality checks to ensure adherence to design specifications and standards.

Final Product Testing:

- Every unit undergoes comprehensive testing, including performance, safety, and functionality tests, before shipment.

.2 Use of High-Quality Materials and Components

Overview:

- The durability and reliability of our HVAC systems start with the selection of high-quality materials and components. We source our materials from reputable suppliers to ensure longevity and performance.

Key Components:

- Compressors: Our compressors are selected for their efficiency, durability, and low noise levels.
- Heat Exchangers: We use advanced heat exchangers designed for optimal thermal performance and corrosion resistance.
- Control Systems: Our control systems are equipped with the latest technology to provide precise and reliable operation.
- Fans and Motors: High-efficiency fans and motors ensure effective air distribution and energy savings.

.3 Advanced Manufacturing Techniques

Overview:

- Our state-of-the-art manufacturing facilities are equipped with advanced machinery and technology, allowing us to produce HVAC systems with precision and consistency.

Techniques:

- Automation: : Automated production lines enhance consistency, reduce human error, and increase efficiency.
- Lean Manufacturing: : We employ lean manufacturing principles to minimize waste, optimize processes, and ensure high-quality output.
- Continuous Improvement:

Our manufacturing processes are continuously reviewed and improved to maintain the highest quality standards.

.4 Certifications and Standards

Overview:

- Our commitment to quality is validated by adhering to internationally recognized standards and obtaining relevant certifications.

Certifications:

- ISO 9001: Our quality management system is certified to ISO 9001, ensuring that our processes meet global quality standards.
- ISO 14001: We are certified to ISO 14001, demonstrating our commitment to environmental management and sustainability.
- ISO 45001: Our occupational health and safety management system is certified to ISO 45001, ensuring a safe working environment.
- AHRI Certification: Our products are certified by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) for performance and efficiency.
- CE Marking: Our HVAC systems comply with European safety, health, and environmental protection standards.

.5 Customer-Centric Design and Innovation

Overview:

- We prioritize the needs of our customers by incorporating their feedback into our design and innovation processes, ensuring our HVAC systems are user-friendly, efficient, and reliable.

Design Features:

- Energy Efficiency:

Our products are designed to maximize energy efficiency, reducing operational costs and environmental impact.

- Ease of Maintenance: We design our systems for easy access and maintenance, reducing downtime and service costs.
- Smart Controls

Advanced control systems provide intuitive user interfaces and integration with building management systems (BMS).

.6 Comprehensive Testing and Validation

Overview:

- Every HVAC system we produce undergoes a series of comprehensive tests to validate its performance, safety, and reliability under various conditions.

Testing Procedures:

- Performance Testing: Verifies cooling and heating capacities, energy efficiency, and overall system performance.
- Safety Testing: nsures all safety features and components function correctly to protect users and the system.
- Environmental Testing: Validates system performance under different environmental conditions, such as extreme temperatures and humidity levels.

.7 Dedicated Customer Support and Service

Overview:

- Our commitment to quality extends beyond manufacturing. We provide exceptional customer support and after-sales service to ensure our customers get the most out of their HVAC systems.

Support Services:

- Technical Assistance: Our expert team is available to provide technical support and troubleshooting.
- Maintenance Programs:

We offer comprehensive maintenance programs to keep systems running efficiently and extend their lifespan.

- Training and Resources:

We provide training and resources to help customers understand and maintain their HVAC systems.

Eco-Friendly Chillers: Commitment to Sustainability

At PST, we understand the importance of sustainability and environmental responsibility. Our chillers are designed with advanced technologies and eco-friendly features that minimize their environmental impact while maximizing efficiency and performance. Here's how our chillers contribute to a greener planet.

.1 Use of Environmentally Friendly Refrigerants

Overview:

- Refrigerants play a crucial role in the environmental impact of HVAC systems. Traditional refrigerants often have high global warming potential (GWP) and ozone depletion potential (ODP).

Our Approach:

- Low GWP Refrigerants: We use refrigerants like R-410A, R-134a, R-407C, and R-32, which have zero ODP and lower GWP compared to older refrigerants like R-22.
- Natural Refrigerants: We also offer chillers using natural refrigerants such as R-290 (propane), which have minimal environmental impact.

Benefits:

Reduced contribution to global warming and ozone layer depletion.Compliance with international environmental regulations and standards.

.2 High Energy Efficiency

Overview:

- Energy-efficient chillers consume less electricity, which reduces greenhouse gas emissions from power plants.

Our Approach:

- Advanced Compressor Technology:

Our chillers are equipped with high-efficiency compressors that optimize energy use.

Benefits:

- Lower operational costs for our customers.
- Reduced carbon footprint due to lower energy consumption.

Variable Speed Drives (VSD):

VSD technology allows the chiller to adjust its cooling capacity based on demand, reducing energy consumption during partial load conditions.

Heat Recovery Systems

ome of our chillers are designed to recover and reuse waste heat, further enhancing energy efficiency.

.3 Sustainable Manufacturing Practices

Overview:

- Sustainable manufacturing involves using resources efficiently and minimizing waste and emissions during the production process.

Our Approach:

- **Eco-Friendly Materials:** We use materials that are recyclable and have a lower environmental impact.
- **Waste Reduction:** Our manufacturing processes are designed to minimize waste through efficient production techniques and recycling programs.
- **Energy-Efficient Facilities:** Our production facilities are equipped with energy-efficient lighting, HVAC systems, and machinery to reduce overall energy consumption.

Our Approach:

- Reduced environmental impact from the manufacturing process.
- Enhanced sustainability of our overall operations.

.4 Intelligent Control Systems

Overview:

- Intelligent control systems enhance the efficiency and performance of chillers by optimizing their operation and monitoring their performance in real-time.

Our Approach:

- **Smart Thermostats:** Our chillers come with advanced monitoring systems that track performance metrics and identify inefficiencies.
- **Real-Time Monitoring:**

Our chillers come with advanced monitoring systems that track performance metrics and identify inefficiencies.

Certifications:

- **Remote Management:** Customers can manage and optimize their chiller operations remotely, ensuring optimal performance and energy use.

Our Approach:

- Increased operational efficiency.
- Early detection of issues, reducing downtime and maintenance costs.

.5 Long Lifespan and Reliability

Overview:

- Durable and reliable chillers require fewer replacements and repairs, reducing resource use and waste .

Our Approach:

- **Robust Design:** Our chillers are designed to withstand demanding conditions and have a long operational lifespan.
- **Quality Components:**

We use high-quality components to ensure the reliability and longevity of our chillers.

- **Regular Maintenance Programs:** We offer maintenance programs that help extend the life of the chillers and maintain their efficiency.

Benefits:

- Reduced environmental impact due to less frequent manufacturing and disposal of units.
- Long-term cost savings for customers.

.6 Compliance with Environmental Standards

Overview:

- Adhering to international environmental standards ensures that our chillers meet the highest sustainability criteria.

Our Approach:

- **Certifications:** Our chillers comply with standards such as ISO 14001 for environmental management systems, Energy Star for energy efficiency, and AHRI standards for HVAC performance.
- **Regulatory Compliance:** We ensure that all our products meet or exceed environmental regulations in all markets where they are sold.

Benefits:

- Assurance of eco-friendly and sustainable products for our customers.
- Contribution to global efforts to combat climate change and protect the environment.

Factory Testing of Chillers

Ensuring the quality and reliability of our chillers is a top priority at PST. Before our chillers are shipped to customers, they undergo rigorous factory testing to verify their performance, safety, and efficiency. This process ensures that each unit meets our high standards and provides optimal functionality upon installation. Here is an overview of the testing procedures carried out in our factory.

.1 Functional Testing

Purpose:

- To simulate real operating conditions and ensure that the chiller performs as expected under various loads and conditions.

Process:

- Incoming Material Inspection: The chiller is charged with refrigerant and connected to a test loop.

Operation of the chiller under different load conditions to verify cooling capacity and performance.
Monitoring of temperature, pressure, and flow rates in the refrigerant and water circuits.
Testing of the compressor, evaporator, condenser, and expansion valve for proper operation.

- In-Process Quality Checks: During production, each step is monitored with strict quality checks to ensure adherence to design specifications and standards.
- Final Product Testing: Every unit undergoes comprehensive testing, including performance, safety, and functionality tests, before shipment.

.2 Performance Testing

Purpose:

- To measure the chiller's efficiency and verify that it meets the specified performance parameters.

Process:

> Measurement of key performance indicators such as Coefficient of Performance (COP), Energy Efficiency Ratio (EER), and cooling capacity.
> Verification of the chiller's ability to reach and maintain the desired temperature setpoints.
> Documentation of performance data for quality assurance and customer reference.

.3 . Final Inspection and Documentation

Purpose:

- To perform a final check of the chiller and prepare it for shipment.

Process:

> Comprehensive review of all test results and quality control checklists.
> Cleaning and final preparation of the chiller for shipment.
> Documentation of test results and certification of the chiller's performance and compliance.

COMMERCIAL AND INDUSTRIAL CHILLERS

Pars Sanat Tahvieh co.

Our chillers are designed to meet the diverse cooling needs of industrial, commercial, and residential environments. Explore our range of chillers and discover how they can benefit your operations.

Industrial Chillers

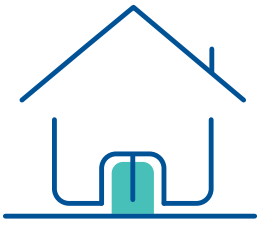
High-Capacity Industrial Chillers:
Our industrial chillers are engineered for heavy-duty applications, providing robust performance and reliability. They are ideal for manufacturing plants, refineries, and other industrial processes where consistent and efficient cooling is critical.

Compact Industrial Chillers:
These chillers offer powerful cooling in a compact design, making them perfect for environments with limited space. They are suited for data centers, industrial cooling processes, and large commercial buildings, ensuring quiet and efficient operation.

Commercial Chillers

Energy-Efficient Commercial Chillers:
Our commercial chillers are designed to deliver high efficiency, reducing operational costs while maintaining optimal performance. They are perfect for shopping malls, hospitals, and office buildings, providing reliable and precise temperature control.

Versatile Commercial Chillers:
These chillers offer flexible installation options and are easy to maintain, making them an excellent choice for hotels, schools, and commercial complexes. They combine quiet operation with smart energy management features to ensure comfort and efficiency.



Residential Chillers

Compact Residential Chillers:
Designed for residential use, these chillers provide efficient and quiet cooling for large homes, small apartment buildings, and villas. They offer a compact design that is easy to install and maintain, ensuring a comfortable living environment.

Ultra-Quiet Residential Chillers:
Ideal for small homes, individual apartments, and duplexes, these chillers are known for their ultra-quiet operation and energy efficiency. They are perfect for residential settings where noise and energy consumption are important considerations.

PROCESS COOLING
SOLUTIONS

AIR CONDITIONING
SYSTEMS

Pars Sanat Tahvieh co.

CYGNUS TECH

- Air cooled water chillers, heat pumps and condensing units featuring hermetic scroll compressors.

- Cooling capacity **14 - 78** kW
- heating capacity **15 - 80** kW

Benefits

- Extremelylow noise levels
- High EER/COP values and seasonal performance indices
- Ideally suited to commercial and domestic chilled water air-conditioning applications
- Extended operating limits
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System (FDS) (Minimum ambient tem - perature in heat pump mode a -10 °C)
- Self-adaptive temperature control (SAC) for efficient operation with installations having low water contents
- Designed for installation in confined spaces:
- Easy to use thanks to a controllerwith icon-based dual display
- Easy installation and simple access to all chiller components.

Main options

- Configuration without storage tank
- High/lowhead pressure pump
- Anti-freezeheaters on evaporator, pump and tank
- Remote user interiace
- R5485 ModBus interface for connection to supervisor systems
- XWEB300D for local or remote (GPRS) monitoring
- plus data filing based on WeB server technology
- Antivibration mountings
- Condenser filters
- Soft starter
- Thermostat (condensing and reversible condensing unit)

Versions:

- **CY -** Cooling only
- **HCY -** Reversible heat pump
- **MCCY -** Condensing unit
- **MCHCY -** Reversible condensing unit

Standard Features

Scroll compressors (051-131) tandem Scroll compressors (181-301)

- Integral hydronic kit complete with pump, tank, expansion ves-sel, filling/drain valve, pressure gauge, and automatic bleed valve
- Hydraulicthreaded connections directly accessiblefrom the ex-lerior of the unit
- Brazedstainless steel plate evaporator
- Axial fans with sickle shaped blades and electronic speed con-tral
- Heat pumps with 2nd thermostatic valve for performance opti-misation in all operating conditions (models 131 to 3011
- Factory charged with refrigerant and non-freezing oil (MC ver. sions excluded)
- Protection grade IPX4
- Inspectionsand tests performed in factory as per all PST products and components
- Environmentallyfriendly refrigerant R410A with zero ozone depletion potential
- Phase monitor against phase reversal
- Compressorcrankcase heater

Low noise operation of technical systems is essential for continuously occupied premises such as homes, offices and light-commercial buildings, where air conditioning units are usually placed in close proximity to the users. In order to satisfy the specific comfort requirements of these type of premises, without compromising performance in all operating conditions, PST has developed the Cygnus Tech series of minichillers and reversible heat pumps with environmentally friendly refrigerant R410A. The already very low noise levels have been further reduced by installing electronic fan speed controls, which run at lower speeds as cooling or heating demands decrease. Seasonal efficiency levels are even more evident in heat pump operation, with clear benefits in terms of climatic comfort, thanks to the integral storage tank and Frost Deteting System (FDS), designed to detect the quantity of ice accumulating on the external coil, so that defrost cycles are performed only when appropriate, thereby minimising the power consumption.

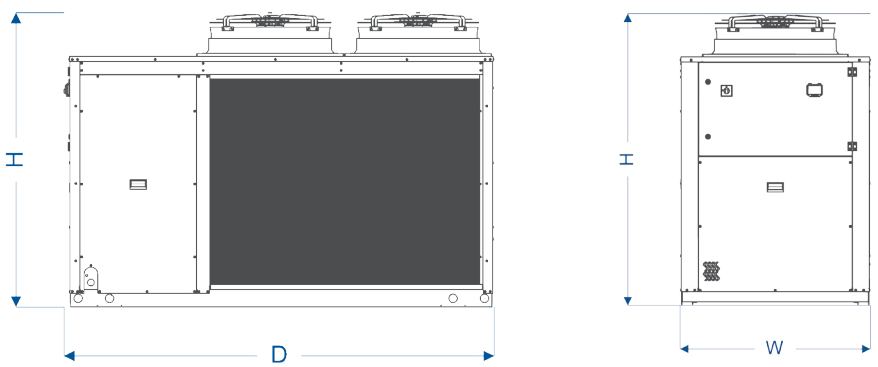
Model CY

		051	071	091	101	121	181	201	241	271	301
Cooling capacity	kW	14.05	18.8	23.3	27.5	30	46.4	52.8	60	69.8	78
Cooling capacity	TR	4	5.3	6.6	7.8	8.5	13.2	15	17.06	19.85	22.2
Total absorbed power	kW	4.3	5.6	7	8	9.1	14.1	16.9	18.2	21.9	25.9
EER	-	3.27	3.35	3.26	3.37	3.28	3.28	3.13	3.30	3.19	3.01
Max external air temperature	˚C	52	51	49	49	48	50	49	50	49	47
EXCHANGERS											
Evaporator pressure drops	kPa	8	33	35	36	35	35	36	37	41	43
Water flow	m^3/h	2.41	3.23	4	4.72	5.14	7.97	9.07	10.31	11.99	13.4
GENERAL DATA											
Refrigerant	-	R410A									
Circuits / Compressors	N°	1 / 1					1 / 2				
Refrigerant	V/Ph/Hz	400±10% / 3+N-PE / 50									
Circuits / Compressors	-	IP54									
NOISE LEVEL											
Noise pressure	dB(A)	43	43	43.5	43.5	44	46	46	48.5	49	49
SIZE AND WEIGHT											
Depth	mm	1605	1605	1950	1950	1950	2505	2505	2505	2505	2505
Width	mm	742	742	800	800	800	1108	1108	1108	1108	1108
Height	mm	1425	1425	1238	1238	1238	1710	1710	1710	1710	1710
Weight (without tank and pump)	kg	182	184	344	361	374	607	613	638	654	660
Weight (with tank and pump)	kg	313	315	556	574	587	824	830	854	871	877

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted. (NB:dimensions for lower noise and/ or higher efficiency versions may differ.)



PROCESS COOLING SOLUTIONS

AIR CONDITIONING SYSTEMS

Pars Sanat Tahvieh co.

TAURUS TECH

- Air cooled water chillers, heat pumps and condensing units featuring hermetic scroll compressors.

- Cooling capacity **14 - 78** kW
- heating capacity **15 - 80** kW
- Cooling capacity condensing units 81 - 189 kW

Benefits

- Refrigerant R410A is an environmentally friendly fluid (zero ozone depletion potential) and provides high performances thanks its outstanding heat conductivity
- 8 base models that perlectly match each specific system requiremeNs
- 2 acoustic versions (HE, SHE) with high efficiency
- Scroll compressors ensure high efficiency, excellent performance and elevated energy savings
- Plug-in solution with integrated pump and tank allows a simple installation
- Extended operating limits: Taurus Tech standardly accepts inlet water temperatures up to 25°C and outlet water temperature down to 0°C HTaurus Tech working with ambient temperature up to 47°C in cooling mode; outlet water temperature up to 55°C and ambient temperature down to -10°C in heating mode
- Optimisation of performance also in heating mode thanks to hot gas injection and the DDS defrosting system
- Comprehensive safety equipment, including phase monitor, pressure switches, differential pressure switch, crankcase heaters
- Extensive range of accessories and kits, allow each unit to match the specific customer requirements. down to -10 °C in heating mode
- Optimisation of performance also in heating mode thanks to hot gas injection and the DDS defrosting system
- Comprehensive safety equipment, including phase monitor, pressure switches, differential pressure switch, crankcase heaters
- Extensive range of accessories and kits, allow each unit to match the specific customer requirements

Main options

- Protection of the hydraulic group by means of panels or metallic mesh
- Coils protection by means of filters or metallic mesh
- Soft starter: are installed on each compressor and allow an average reduction of 30% of the start-up current compared to the direct start
- Shut-off valves on suction side and discharge line of each pair of compressors
- Total heat recovery lavailable for TAT on
- Partial heat recovery (available for TAT and HTAT only)
- Pump options: P15, P2, double P15+P13 or P2+P2 with or without sto-rage tank
- Anti-freeze heater on heat exchangers and hydraulic kit (if present)
- High efficiency EC axial fans with inverter
- Technalogy and integrated speed regulationor fan speed controller 15 Electronic expansion valve
- Condenser coils designed for aggressive atmosphere
- -20 °C option: it allows the units to operate in cooling mode down tole -20 °C ambient temperature
- Anti-vibration mounts
- Thermostatic valves kit for condensing units;
- Remote control kit: VICX620 display LED, VC|890 display LCD semi-graphic (max 150 m)
- Gateway Modbus/Trend Kit
- Supervisor kits: R5485 ModBus, xWEBSD0D

Standard Features

- Reirigerant R410A
- 2 Hermelic Scroll compressors in 1 circuit configuration
- shell & tube evaporalor
- AC Axial fans with die-cast aluminum blades, developed on the basis of bionic principles
- Air-cooled condensers (copper tubes/aluminium fins) with longitudinal "V" formation
- High and low refrigerant pressure switches
- Refrigerant pressure gauges
- Parametric microprocessor control IC208CX
- 1P5& protection class
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater

Versions:

- **Taurus Tech** - cooling only version
- **HTaurus Tech** - reversible heat pumps with outlet water temperature up to 55 °C
- **MCTaurus Tech** - condensing units
- **HE** - High energy efficiency and basic acoustic configuration
- **SHE** - High energy efficiency and low noise acoustic configuration

Taurus Tech chillers and heat pumps represent the optimal solution for centralised hydronic conditioning of medium sized applications and with the wide range of accessories it is possible to satisfy the installation and start-up unit needs. The parametric microprocessor control, through an user friendly interface allows to modify the unit operating parameters in a simple way. In the heat pumps, the defrosting cycles are automatically and continuously manages with DDS logic (Dynamic Defrosting System) that, unlike commonly adopted solutions, operates only when effectively necessary, optimising defrosting duration and frequency, to the benefit of ambient comfort and operating economy.

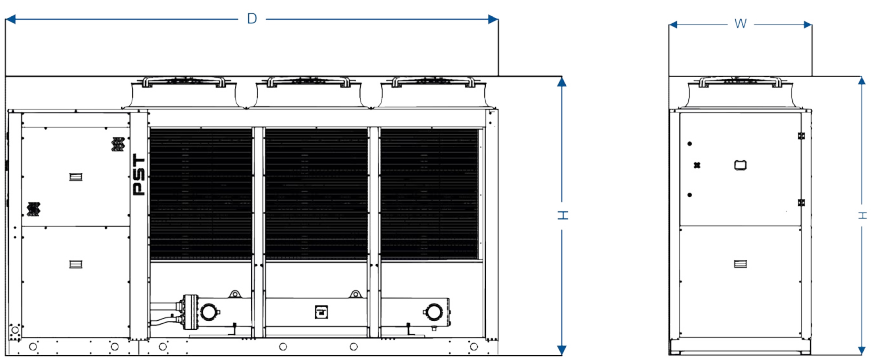
Model TAT (HE)

		301	351	401	451	501	551	601	701
Cooling capacity	kW	84	94	106.2	130	139.8	154.8	171	189
Cooling capacity	TR	23.9	26.7	30.2	37	39.8	44	48.6	53.8
Total absorbed power	kW	26	29.4	32.3	40	43.2	46.6	53.8	62.3
EER	-	3.23	3.20	3.29	3.25	3.23	3.32	3.18	3.06
Max external air temperature	˚C	52	50	49	51	50	50	49	47
EXCHANGERS									
Evaporator pressure drops (plate)	kPa	20	23	24	26	31	29	35	40
Evaporator pressure drops (Shell Tube)	kPa	32	39	39	36	42	34	42	48
Water flow	m^3/h	14.42	16.14	18.23	22.31	24	26.57	29.35	32.44
GENERAL DATA									
Refrigerant	-	R410A							
Circuits / Compressors	N°	1 / 2							
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50							
Circuits / Compressors	-	IP54							
NOISE LEVEL									
Noise pressure	dB(A)	56	56	58	58	58	59	59	60
Noise power	dB(A)	88	88	90	90	90	91	91	92
SIZE AND WEIGHT									
Depth	mm	2800	2800	2800	3810	3810	3810	3810	3810
Width	mm	1100	1100	1100	1100	1100	1100	1100	1100
Height	mm	2170	2170	2170	2170	2170	2170	2170	2170
Weight	kg	913	988	1120	1322	1396	1472	1510	1522

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

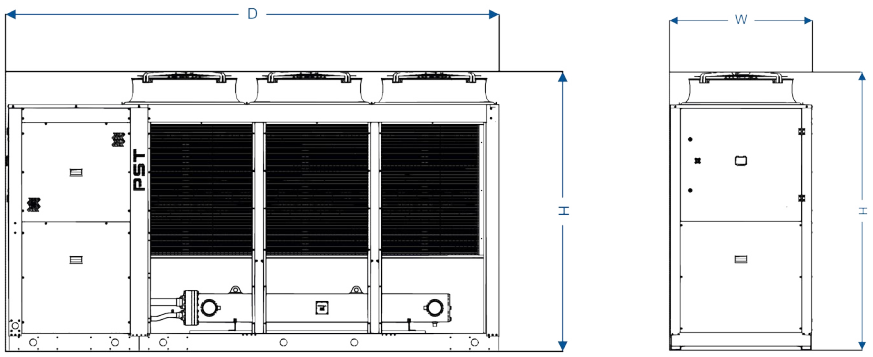
(3) Dimensions and operating weights are referred to Taurus Tech cooling only version without options.



Model TAT (SHE)

		301	351	401	451	501	551	601	701
Cooling capacity	kW	81	92.9	107.4	128.5	138.1	149.8	164	-
Cooling capacity	TR	23	26.4	30.5	36.55	39.28	42.6	46.64	-
Total absorbed power	kW	25.85	28.87	31.67	38.8	42.35	46.9	54.8	-
EER	-	3.13	3.22	3.39	3.31	3.26	3.19	3	-
Max external air temperature	˚C	50	48	51	49	48	47	45	-
EXCHANGERS									
Evaporator pressure drops (plate)	kPa	24	23	24	25	30	28	35	-
Evaporator pressure drops (Shell Tube)	kPa	30	39	40	36	41	33	39	-
Water flow	m^3/h	13.90	15.95	18.44	22.06	23.7	25.71	28.15	-
GENERAL DATA									
Refrigerant	-	R410A							
Circuits / Compressors	N°	1 / 2							
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50							
Circuits / Compressors	-	IP54							
NOISE LEVEL									
Noise pressure	dB(A)	48	48	50	50	50	51	51	-
Noise power	dB(A)	80	80	82	82	82	83	83	-
SIZE AND WEIGHT									
Depth	mm	2800	2800	2800	3810	3810	3810	3810	-
Width	mm	1100	1100	1100	1100	1100	1100	1100	-
Height	mm	2170	2170	2170	2170	2170	2170	2170	-
Weight	kg	913	1026	1353	1378	1452	1472	1510	-

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C
(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.
(3) Dimensions and operating weights are referred to Taurus Tech cooling only version without options.



PROCESS COOLING
SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING
SYSTEMS

ARIES TECH

- Air cooled water chillers and heat pumps with R410A featuring hermetic scrollcompressors.

- Cooling capacity **166 - 340** kW
- heating capacity **167 - 343** kW

Benefits

- Reduced noise levels, thanks also to the availability of three differing acoustic versions
- High EER/COP levels, especially at partial loads

Optimisation of performance also in heat pump mode thanks to hot gas injection and the innovative EcoDefrost defrosting system (min. ambient temperature -10 °C in heat pump mode)

Allows start-up and operation in even the most severe conditions thanks to the unloading function

Simplified installation and easy access to all components

- User friendly controller with multifunctional buttons and dynamic display icons.

Main options

- 4 scroll compressors in parallel within two independent circuits
- Phase monitor against phase reversal
- Compressor crankcase heater
- Single brazed "dual-circuit" stainless steel plate evaporator
- Heat pumps equipped with 2nd thermostatic valve for optimised performance in all operating conditions)
- Axial fans with progressive activation for optimised condensing pressure control, installed in two independent aeraulic sections
- Factory tested and supplied with refrigerant charge and antifreeze oil
- IP54 electric protection rating
- Environmentally friendly refrigerant R410A
- XDRIVE is a microprocessor electronic controller with high computing capacity and user friendly graphic interface
- RS485 ModBus interface for connection to supervisor systems;
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters

Standard Features

- Shell and tube evaporator (AST only)
- 1 or 2 high/low head pressure pumps and water pressure gauge
- Storage tank
- Electronic expansion valves (AST only)
- Compressor shut-off valves on suction and discharge lines
- High efficiency EC inverter fans that allows an high energy savings,special at partial load
- Condenser coils designed for aggressive atmospheres
- Antivibration dampers
- Anti-freeze heaters on evaporator, pump and tank

Metal mesh filters for condenser coil protection

- Electric power supplies differing from standard
- Soft starter allows about a 20% reduction of the start-up current than direct start
- Victaulic connections
- Simple remote control
- Replicated remote user terminal
- Serial connection to supervisor systems
- MTA XCONNECT supervision based on internal web pages
- Modularity/web interconnection hub

Versions:

- **AST** - Cooling only
- **HAST** - Reversible heat pump
- **Low ambient air temperature -** down to -20 °C in cooling mode (AST only)
- **H version -** for high external air temperature/high efficiency (only AST)
- **HE -** High energy efficiency and basic acoustic configuration
- **SHE -** High energy efficiency and low noise acoustic configuration

The evolution of commercial chillers.

The air-cooled water chillers ARIES Tech have evolved to-fulfil the present and future needs of commercial air conditioning systems. They are extremely customizable to guarantee an easy installation for any plant solution.

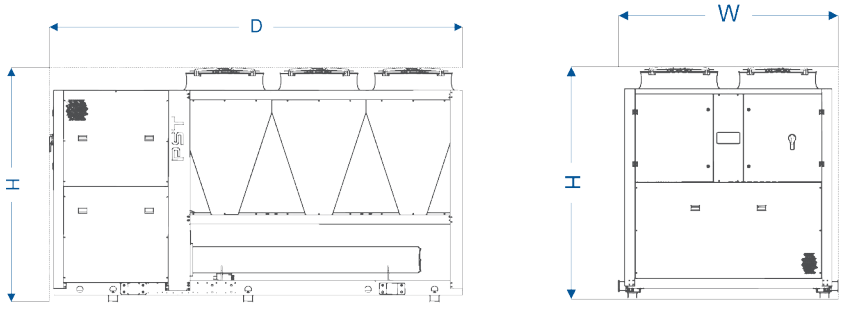
The ARIES Tech range is the example of targeted design, essential to obtain a reduced operating cost for air conditioning of medium and large residential or commercial spaces without excluding reliability the environment protection.

Model AST (HE)

		060	070	080	090	100	110	120
Cooling capacity	kW	166	186.4	209.2	241.4	285.8	306.4	340
Cooling capacity	TR	47.2	53	59.48	68.64	81.26	87.12	96.67
Total absorbed power	kW	52	58.8	64.13	72.69	84.8	93.2	107.6
EER	-	3.19	3.17	3.26	3.32	3.37	3.29	3.16
Max external air temperature	℃	52	50	50	52	51	50	49
EXCHANGERS								
Evaporator pressure drops	kPa	40	33	42	44	37	43	47
Water flow	m^3/h	28.49	32	35.91	41.44	49.06	52.59	58.36
GENERAL DATA								
Refrigerant	-	R410A						
Circuits / Compressors	N°	2 / 4						
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50						
Circuits / Compressors	-	IP54						
NOISE LEVEL								
Noise pressure	dB(A)	60	60	61	61	62	63	63
Noise power	dB(A)	92	92	93	93	94	95	95
SIZE AND WEIGHT								
Depth	mm	3570	3570	3570	4300	4300	4300	4300
Width	mm	2192	2192	2192	2192	2192	2192	2192
Height	mm	2400	2400	2400	2400	2400	2400	2400
Weight	kg	1962	2016	2143	2642	2985	2985	3156

(1) Evaporator water inlet-outlet temperature 12-7°C, external air temperature 35°C.

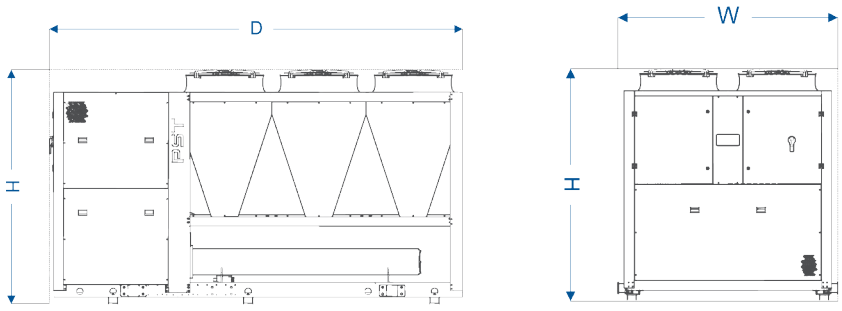
(2) Sound pressure at 10 m: Average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance +/-2. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump. The listed noise levels, weights and dimensions refer to base chillers with no options fitted.



Model AST (SHE)

		060	070	080	090	100	110	120
Cooling capacity	kW	164	184.2	202.4	235.6	277.8	296.4	328
Cooling capacity	TR	46.6	52.4	57.5	67	79	84.3	93.26
Total absorbed power	kW	50.5	57.6	64.7	71.7	84.7	93.7	109.2
EER	-	3.24	3.20	3.13	3.28	3.28	3.16	3.00
Max external air temperature	˚C	49	48	46	50	48	47	45
EXCHANGERS								
Evaporator pressure drops	kPa	39	33	39	42	35	40	44
Water flow	m^3/h	28.15	31.62	34.74	40.44	47.68	50.88	56.3
GENERAL DATA								
Refrigerant	-	R410A						
Circuits / Compressors	N°	2 / 4						
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50						
Circuits / Compressors	-	IP54						
NOISE LEVEL								
Noise pressure	dB(A)	52	52	53	54	55	55	56
Noise power	dB(A)	84	84	85	86	87	87	88
SIZE AND WEIGHT								
Depth	mm	3570	3570	3570	4300	4300	4300	4300
Width	mm	2192	2192	2192	2192	2192	2192	2192
Height	mm	2400	2400	2400	2400	2400	2400	2400
Weight	kg	2036	2091	2143	2642	2984	2984	3156

(1) Evaporator water inlet-outlet temperature 12-7°C, external air temperature 35°C.
(2) Sound pressure at 10 m: Average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance +/-2. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump. The listed noise levels, weights and dimensions refer to base chillers with no options fitted.



PROCESS COOLING
SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING
SYSTEMS

GALAXY TECH

- Air cooled water chillers with R410A featuring hermetic scrollcompressors.
- Cooling capacity 352 - 872 Kw

Benefits

- Reduced noise levels, thanks also to the availability of differing acoustic versions
- High EER/COP levels, especially at partial loads
- Ideal for large hydronic air conditioning installations in public and private surroundings
- Allows start-up and operation in even the most severe conditions
- Easy installation with direct access to the water connections and the applications of victaulic connections;
- Simple to install and maintain, easily accessible components
- User friendly controller with multifunctional buttons and dynamic display icons

Main options

- 1 or 2 pumps and water pressure gauge;
- Storage tank
- Condenser coils designed for aggressive atmospheres
- Metal mesh filters for condenser coil protection
- High efficiency EC axial fans with inverter technology and integrated speed regulation; or fan speed controller
- Antifreeze heater on evaporator, pumps and tank
- Antivibration dampers
- Serial connection to supervisor systems
- MTA CONNECT supervision based on internal web pages
- Modularity / web interconnection hub
- Replicated remote user terminal
- Soft starter: are installed on each compressor and allow a reduction from 10 to 20% (depending by the model) of the start up current compared to the direct start
- Victaulic connections
- Simple remote control
- Special execution with partial or total heat recovery exchangers
- Special execution for water temperatures down to -10°C

Versions:

- **Low ambient air temperature** - down to -20°C in cooling mode

High energy efficiency versions

- **HE**-High energy efficiency and basic acoustic configuration
- **SHE**-High energy efficiency and low noise acoustic configuration

Standard Features

- Multiple scroll compressors (4 to 8 depending on the model) connected in parallel (tandem or trio] on 2 or 4 independent refrigeration circuits
- Shut-off valve and solenoid valve on the liquid line in each refrigeration circuit
- ×DRIVE is a microprocessor electronic controler with high computing capacity and user friendly graphic interlace:
- Compressor suction and discharge valves

XORIVE features the ModBUS-RTU communication protocol as standard, allowing connection with the most widely utilised Building Management Systems (BMS!. It also features an Ethernet port as standard, with HTML supervision pages preloaded for connection to a company intranet or the Internet

- The DRIVE can manage in master/slave mode up to 8 units
- Phase monitor against phase loss and phase reversal and checks the operating voltage limits
- AC axial fans with die-cast aluminum blades, developed on the basis of bionie principles with progressive starting for condensing pressure control
- Electronic expansion valve
- High and low pressure transducer
- Water differential pressure switch, air bleed valve and water drain valve
- Factory tested and supplied with refrigerant charge and antifreeze ol
- Environmentally friendly refrigerant R410A with zero ozone depletion potential
- All the compressors are equipped with crankcase heaters
- Compressor housings for acoustic insulation
- Special execution with shell and tube evaporator

The energy efficiency and the reliability.

Operation at partial loads corresponds to the largest portion of the working life of a unit dedicated to air conditioning applications: typically thermal loads vary widely both during the year and throughout each 24 hour period. The subdivision of the total cooling capacity over a large number of capacity steps, rendered possible thanks to the implementation of multi-scroll technology and environmentally friendly refrigerant R410A, ensure maximised performance at partial loads, resulting in seasonal energy savings of more than 16% with respect to conventional solutions. The multi-scroll configuration offers a lightweight solution, and permits the volume reduction of the storage tank with the associated dispersal of cooling energy, thus further reducing the static loading on the unit supports. Progressive stopping of the compressors and fans means that Galaxy Tech is extremely quiet in operation, rendering it ideal for installation in noise-sensitive surroundings.

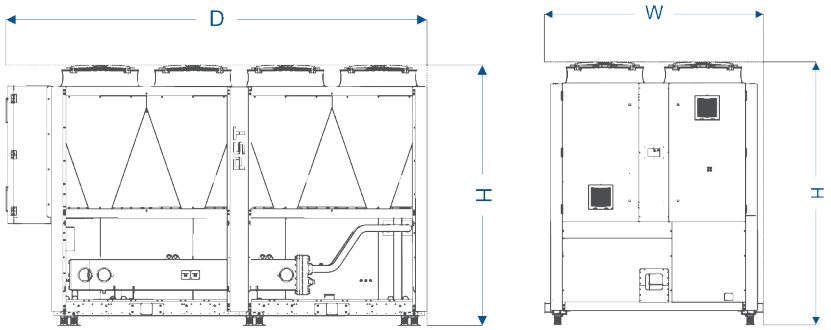
Model GLT (HE)

		120	140	160	170	180	200	220	230	240	260	280	300	320
Cooling capacity	kW	352	396	438	477	522	565	617	634	654	735	792	826	872
Cooling capacity	TR	100	112.6	124.5	135.6	148.4	160.6	175.4	180.27	185.9	208.98	225.2	234.8	247.9
Total absorbed power	kW	107.14	120.2	135.4	148	160.1	176.1	187.9	195.5	203.1	229.47	240.4	255.6	270.8
EER	-	3.29	3.29	3.23	3.22	3.26	3.21	3.28	3.24	3.22	3.20	3.29	3.23	3.22
Max external air temperature	˚C	51	50	49	49	51	50	50	49	49	50	50	49	49
EXCHANGERS														
Evaporator pressure drops	kPa	35	22	45	50	53	43	45	47	48	39	35	37	41
Water flow	m^3/h	60.42	67.97	75.18	81.88	89.6	96.98	105.91	108.83	112.26	126.16	135.95	141.78	149.68
GENERAL DATA														
Refrigerant	-	R410A												
Circuits / Compressors	N°	2 / 4			2 / 5	2 / 6					4 / 8			
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Circuits / Compressors	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	65	65	65	65	65	65	66	66	66	66	67	67	67
Noise power	dB(A)	97	97	97	97	98	98	99	99	99	99	100	100	100
SIZE AND WEIGHT														
Depth	mm	4490	4490	4490	5490	6490	6490	6490	6490	6490	8490	8490	8490	8490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	3802	3982	4006	4765	5523	5607	5865	5877	5889	7529	7865	8149	8173

(1) External ambient temperature: 35° C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the conde coils and at a height of 1.6 m from the unit support base. Values with tolerance $ 2 dB. The sound levels refer to operation of the under full load in nominal conditions and with circulation pump.

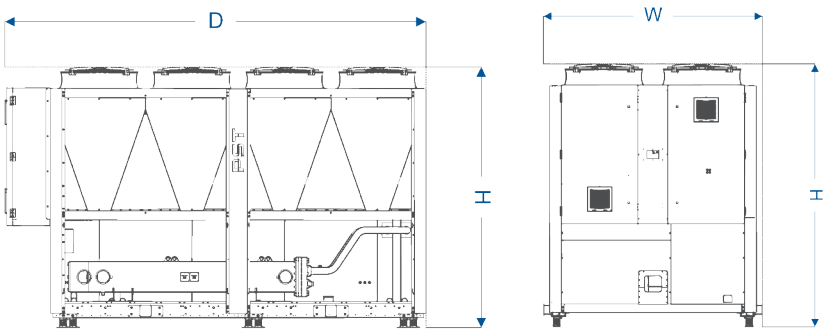
The listed noise levels, weights and dimensions refer to base chillers with no options fitted. INB: dimensions for lower noise or higher efficiency versions may differ .)



Model GLT (SHE)

		120	140	160	170	180	200	220	230	240	260	280	300	320
Cooling capacity	kW	342	384	424	463	507	556	597	613.5	633	726	770	803	848
Cooling capacity	TR	97.24	109.20	120.56	131.6	144.2	158	169.7	174.4	179.9	206.4	218.9	228.3	241.1
Total absorbed power	kW	106.57	120.5	137.5	148.6	159.3	172.6	189	197.3	206.2	224.3	240.5	257.3	274.9
EER	-	3.21	3.19	3.08	3.12	3.18	3.22	3.16	3.11	3.07	3.24	3.20	3.12	3.06
Max external air temperature	℃	49	47	46	46	49	48	47	46	46	47	47	46	46
EXCHANGERS														
Evaporator pressure drops	kPa	33	20	42	47	50	42	42	44	45	38	33	35	38
Water flow	m^3/h	58.7	65.91	72.78	79.47	87.03	95.44	102.47	105.31	108.65	124.62	132.17	137.83	144.19
GENERAL DATA														
Refrigerant	-	R410A												
Circuits / Compressors	N°	2/4			2/5	2/6					4/8			
Refrigerant	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Circuits / Compressors	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	57	57	57	57	57	57	58	58	58	58	59	59	59
Noise power	dB(A)	89	89	89	89	90	90	91	91	91	91	92	92	92
SIZE AND WEIGHT														
Depth	mm	4490	4490	4490	5490	6490	6490	6490	6490	6490	8490	8490	8490	8490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	3802	3982	4006	4765	5523	5607	5865	5877	5889	7840	7865	8149	8173

(1) External ambient temperature: 35° C; evaporator IN/OUT: 7/12°C
(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the conde coils and at a height of 1.6 m from the unit support base. Values with tolerance $ 2 dB. The sound levels refer to operation of the under full load in nominal conditions and with circulation pump.
The listed noise levels, weights and dimensions refer to base chillers with no options fitted. INB: dimensions for lower noise or higher efficiency versions may differ .)



PROCESS COOLING SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING SYSTEMS

PHOENIX PLUS

- Air cooled water chillers with R134a featuring semi-hermetic twin screw compressors.
- Cooling capacity **297 - 1437** kW

Benefits

- High energy efficiency both at full load and at partial load A Class)
- High seasonal energy efficiency
- The controller provides maximum flexibility to adapt to any operating condition, thanks to the Smart Stepless algorithm specifically developed by PST
- High reliability and continuity of operation (up to 4 screw compressors and "Smart Stepless"
- Wide operating rangelambient temp
- Comprehensive safety equipment, including phase monitor, pressure switches, differential pressure switch, crankcase heaters, compressors operating envelope and oil level
- Wide range of accessories and kits for custom solutions
- Integration with AQUAFree free-cooling modules

Main options

- High efficiency EC axial fans with inverter technology and integrated speed regulation; or fan speed controller
- Condenser coils with anticorrosion treatment
- Soft starter
- Antivibration dampers
- Special applications with partial or total heat recovery
- Special applications for water temperatures down to -10°C
- Special very high efficiency applications;
- Antifreeze heater
- Metal mesh filters for condenser coil protection;
- Replicated remote user terminal
- Simple remote control
- Serial connection to supervision systems
- PST CONNECT Supervision based on internal web pages
- Modularity / web interconnection hub

Standard Features

- Environmentally friendly R134a refrigerant.
- High efficiency screw compressors with stepless regulation optimized for R134a refrigerant gas.
- Compressor crankcase heater.
- Compressor housings
- Air-cooled condensers (copper tubes/aluminium fins) with transverse "V" formation; om -20°C to+50°C)
- AC Axial fans with die-cast aluminum blades, developed on the basis of bionic principles
- Check valve on compressor discharge and shut-off valves on discharge and suction lines
- Electronic expansion valves
- Single pass shell & tubes evaporator optimized for R134a refrigerant gas
- The Electrical panel is made up of IP 54 cabinet with forced ventilation, inside which are installed contactors and circuit breakers; the protection from the phase loss and from the phase reversal is assured by the phase monitor device
- DRIVE controller programmed with software specifically developed by PST
- high computing capacity and user friendly graphic interfac
- connectivity and supervision via Ethernet,USB, RS485 Modbus.

Versions:

- **Low ambient air temperature version** - down to -20°C in cooling mode.with EC axial fans

Standard energy efficiency versions:

- **INVERTER** - variable-speed inverter technology with excellent efficiency at full and partial loads

High energy efficiency versions:

- **HE** - basic acoustic configuration optimized for full load operation
- **SHE** - low noise acoustic configuration optimized for part load operation
- **HHE** - high ambient temperature and basic acoustic configuration optimized for full load operation.

The PHOENIX Plus range of chillers has been specifically designed to optimize the benefits of refrigerant R134a; their maximum advantage is achieved in those installations where the chiller operates below its design load conditions for most of the year.
Thanks to unique technical solutions and Smart Stepless regulation according to the exact effective cooling load requested by the system, PHOENIX Plus achieves market leading ESEER seasonal performance ratios, as well as nominal load EER ratios which are well above the minimum limit of the Class A energy efficiency category.

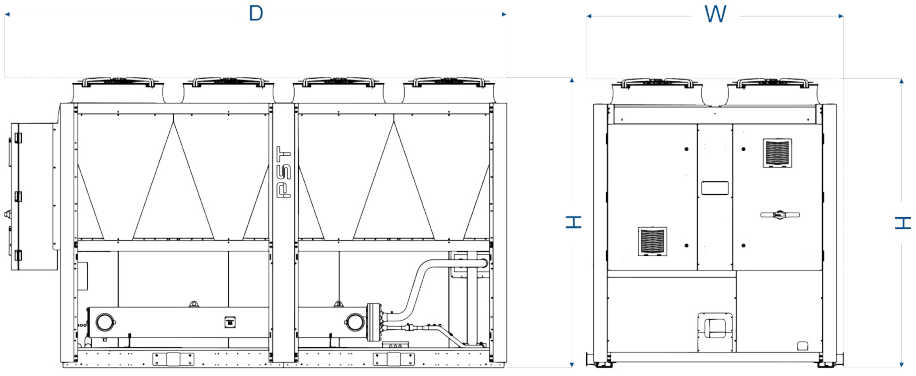
Model PNP (HE)

		140	150	160	170	180	200	220	235	250	265	280	300	320
Cooling capacity	kW	297.4	350.6	366	391	420	448	482	512	546	580	620	672	734
Cooling capacity	TR	84.56	99.69	104.07	111.17	119.4	127.38	137.05	145.58	155.25	164.9	176.3	191.07	208.7
Total absorbed power	kW	94.41	108.34	116.14	123.27	131.2	141.2	151.8	160.45	169.7	179.6	190.3	207.89	226.27
EER	-	3.15	3.24	3.15	3.17	3.20	3.17	3.18	3.19	3.22	3.23	3.26	3.23	3.24
Max external air temperature	˚C	48	49	48	48	48	46	46	46	48	48	48	48	48
EXCHANGERS														
Evaporator pressure drops	kPa	31	51	45	39	44	48	27	40	35	43	46	39	42
Water flow	m^3/h	51.05	60.18	62.82	67.12	72.09	76.90	82.74	87.88	93.72	99.56	106.42	115.35	126
GENERAL DATA														
Refrigerant	-	R134A												
Circuits / Compressors	N°	2 / 2												
Capacity control	%	12.5 ~ 100												
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Protection class	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	66	66	66	67	67	68	68	68	68	68	68	68	69
Noise power	dB(A)	98	98	98	99	99	100	100	100	100	100	100	101	102
SIZE AND WEIGHT														
Depth	mm	4490	4490	4490	4490	4490	4490	4490	5490	6490	6490	6490	7490	8490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	3964	4190	4805	4893	5041	5051	5216	5821	6291	6408	6541	7665	8681

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



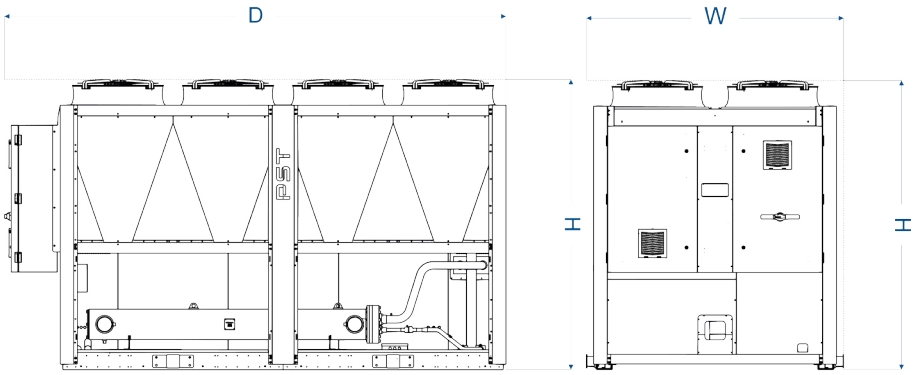
Model PNP (HE)

		360	375	405	420	440	460	480	500	520	540	570	600	630
Cooling capacity	kW	783	819	887	927	983	1033	1101	1141	1184	1251	1305	1359	1437
Cooling capacity	TR	222.6	232.87	252.2	263.58	279.5	293.7	313	324.4	336.6	355.7	371	386.4	408.6
Total absorbed power	kW	245	254.45	274.3	285.15	303.2	320.4	339.4	353.8	368.8	385.6	404.3	422.9	444
EER	-	3.20	3.22	3.23	3.25	3.24	3.22	3.24	3.22	3.21	3.24	3.23	3.21	3.24
Max external air temperature	℃	46	48	48	48	48	48	48	47	47	46	46	46	46
EXCHANGERS														
Evaporator pressure drops	kPa	37	47	45	39	46	50	50	50	50	52	56	42	41
Water flow	m^3/h	134.4	140.58	152.25	159.12	168.73	177.31	189	195.85	203.23	214.73	224	233.27	246.6
GENERAL DATA														
Refrigerant	-	R134A												
Circuits / Compressors	N°	3 / 3												
Capacity control	%	8.3 ~ 100												
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Protection class	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	69	69	70	70	70	71	72	72	72	72	73	73	73
Noise power	dB(A)	102	102	103	103	103	104	104	104	104	104	105	105	105
SIZE AND WEIGHT														
Depth	mm	8490	9490	9490	9490	10490	11490	12490	12490	12490	12490	12490	12490	12490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	8886	9483	9757	9954	10930	11916	13081	13091	13301	13321	13537	14126	14349

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



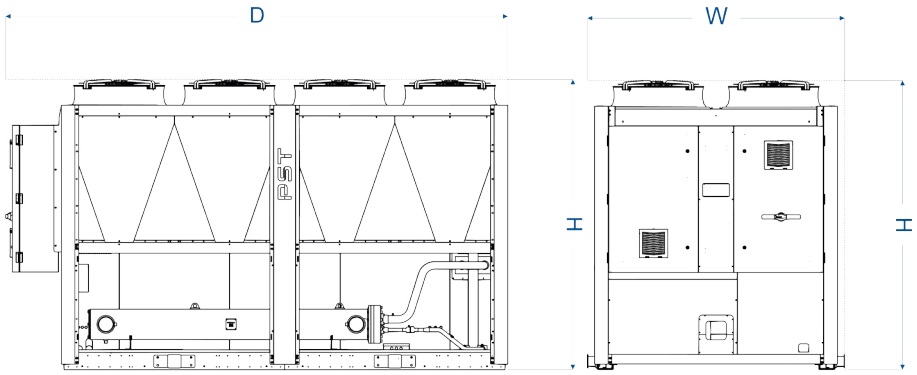
Model PNP (SHE)

		140	150	160	170	180	200	220	235	250	265	280	300	320
Cooling capacity	kW	288.4	339.8	355.2	378.6	406	430	460	492	530	561	600	650	712
Cooling capacity	TR	82	96.62	101	107.65	115.44	122.26	130.79	139.89	150.7	159.5	170.6	184.4	202.45
Total absorbed power	kW	97.05	107.77	116.17	124.01	132.45	143.75	155.86	162.25	169.45	180.32	191.98	208.36	225.73
EER	-	2.97	3.15	3.06	3.05	3.07	2.99	2.95	3.03	3.13	3.11	3.13	3.12	3.15
Max external air temperature	˚C	46	47	46	45	45	43	43	43	46	46	46	46	46
EXCHANGERS														
Evaporator pressure drops	kPa	30	48	43	37	42	45	25	37	33	40	43	37	39
Water flow	m^3/h	49.5	58.33	60.97	64.99	69.69	73.81	78.96	84.45	90.97	96.3	102.99	111.57	122.21
GENERAL DATA														
Refrigerant	-	R134A												
Circuits / Compressors	N°	2 / 2												
Capacity control	%	12.5 ~ 100												
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Protection class	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	55	55	55	56	56	56	57	57	57	57	57	57	58
Noise power	dB(A)	87	87	87	88	88	88	89	89	89	89	89	90	91
SIZE AND WEIGHT														
Depth	mm	4490	4490	4490	4490	4490	4490	4490	5490	6490	6490	6490	7490	8490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	3964	4190	4805	4893	5041	5051	5216	5821	6291	6408	6545	7665	8681

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



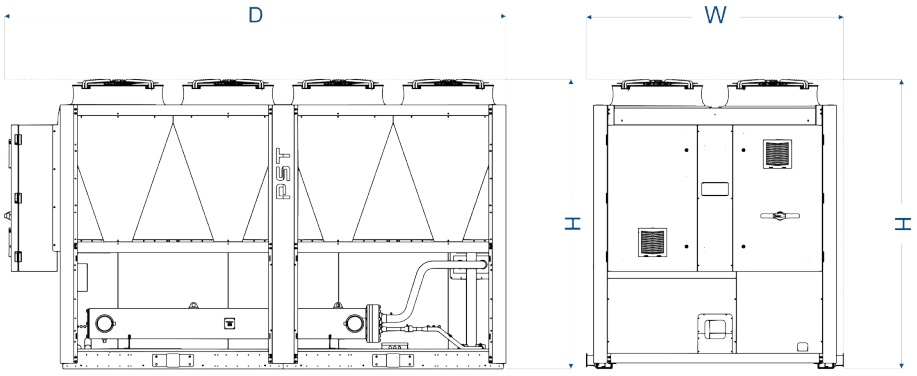
Model PNP (SHE)

		360	375	405	420	440	460	480	500	520	540	570	600	630
Cooling capacity	kW	754	795	857	894	950	1000	1068	1102	1142	1203	1254	1305	1380
Cooling capacity	TR	214.4	226	243.7	254.2	270.12	284.3	303.67	313.34	324.7	342	356.5	371	392.4
Total absorbed power	kW	246.6	254.2	275.9	287.7	304.5	320.53	338.6	354.2	342.9	387.8	408.7	429.6	453.47
EER	-	3.06	3.13	3.11	3.11	3.12	3.12	3.15	3.11	3.33	3.10	3.07	3.04	3.04
Max external air temperature	℃	43	46	46	46	46	45	46	44	44	44	43	43	43
EXCHANGERS														
Evaporator pressure drops	kPa	34	44	42	36	43	47	47	46	46	48	52	39	38
Water flow	m^3/h	129.42	136.36	147.1	153.45	163.07	171.65	183.32	189.16	196.02	206.5	215.25	224	236.88
GENERAL DATA														
Refrigerant	-	R134A												
Circuits / Compressors	N°	3 / 3												
Capacity control	%	8.3 ~ 100												
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Protection class	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	58	58	59	59	59	60	61	61	61	61	62	62	62
Noise power	dB(A)	91	91	92	92	92	93	93	93	93	93	94	94	94
SIZE AND WEIGHT														
Depth	mm	8490	9490	9490	9490	10490	12490	12490	12490	12490	12490	12490	12490	12490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	8885	9483	9757	9954	10930	11916	13081	13091	13301	13321	13537	14126	14349

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



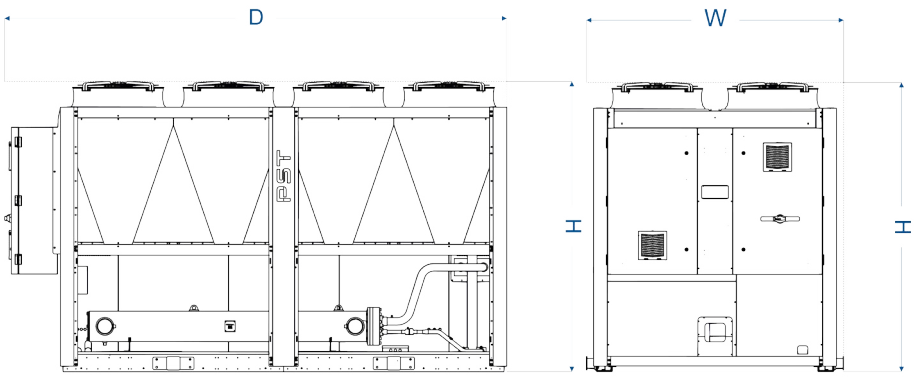
Model PNP (HHE)

		160	180	200	220	250	265	280	300	320	340
Cooling capacity	kW	282.4	324.8	381.2	430	456	490	526	550	578	623
Cooling capacity	TR	80.3	92.35	108.4	122.26	129.6	139.3	149.56	156.43	164.34	177.2
Total absorbed power	kW	83.14	94	112.1	125.7	133.7	142	150.5	160.68	171.07	181.93
EER	-	3.40	3.46	3.40	3.42	3.41	3.45	3.50	3.42	3.38	3.42
Max external air temperature	˚C	53	53	54	53	52	52	52	52	53	53
EXCHANGERS											
Evaporator pressure drops	kPa	44	28	53	54	29	33	37	34	40	39
Water flow	m^3/h	48.47	55.75	65.43	73.81	78.62	84.11	90.63	94.41	99.21	106.94
GENERAL DATA											
Refrigerant	-	R134A									
Circuits / Compressors	N°	2 / 2									
Capacity control	%	12.5 ~ 100									
Power supply	V/Ph/Hz	400 ± 10% / 3 + N - PE / 50									
Protection class	-	IP54									
NOISE LEVEL											
Noise pressure	dB(A)	66	66	67	67	67	67	68	68	68	68
Noise power	dB(A)	98	98	99	99	99	99	100	100	100	101
SIZE AND WEIGHT											
Depth	mm	6490	6490	6490	6490	6490	6490	6490	7490	8490	8490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	4426	4783	5997	6027	6637	6767	7132	7689	8012	8592

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



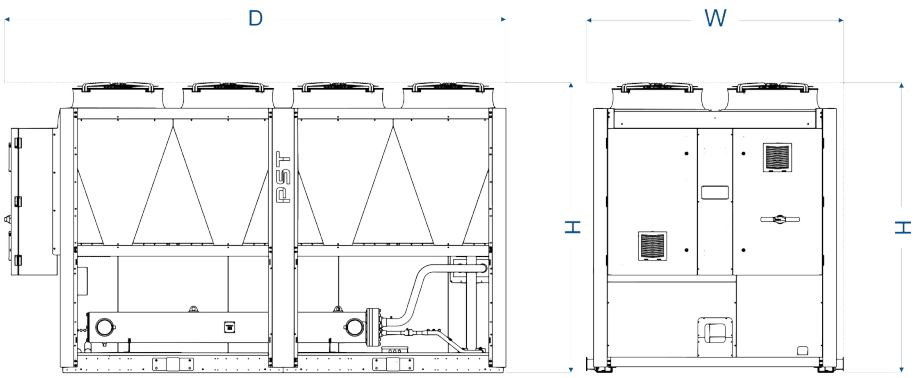
Model PNP (HHE)

		360	405	420	480	530	560	600	640	720
Cooling capacity	kW	676	751	792	861	980	1056	1100	1144	1336
Cooling capacity	TR	192.2	213.6	225.26	244.8	278.7	299.2	312.8	325.37	379.98
Total absorbed power	kW	193.8	217.15	226.35	256.3	284	301.4	321.37	340.94	385.6
EER	-	3.49	3.46	3.50	3.36	3.45	3.49	3.42	3.36	3.46
Max external air temperature	˚C	53	52	52	53	52	52	52	53	53
EXCHANGERS										
Evaporator pressure drops	kPa	38	46	42	38	53	48	51	41	49
Water flow	m^3/h	116.04	128.91	135.95	147.79	168.2	180.58	188.8	196.37	229.32
GENERAL DATA										
Refrigerant	-	R134A								
Circuits / Compressors	N°	2 / 2	3 / 3			4/ 4				
Capacity control	%	12.5 ~ 100	8.3 ~ 100			6.3 ~ 100				
Power supply	V/Ph/Hz	400 ± 10% / 3 + N - PE / 50								
Protection class	-	IP54								
NOISE LEVEL										
Noise pressure	dB(A)	68	68	68	69	69	70	70	70	71
Noise power	dB(A)	101	101	101	102	102	103	103	103	104
SIZE AND WEIGHT										
Depth	mm	8490	9490	9490	12490	12490	12490	14490	16490	16490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	9172	10034	10393	12066	13511	13771	14886	16477	19090

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



PROCESS COOLING SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING SYSTEMS

PHOENIX INVERTER

- Air cooled water chillers with R134a featuring semi-hermetic twin inverter screw compressors.
- Cooling capacity **478 - 1244** kW

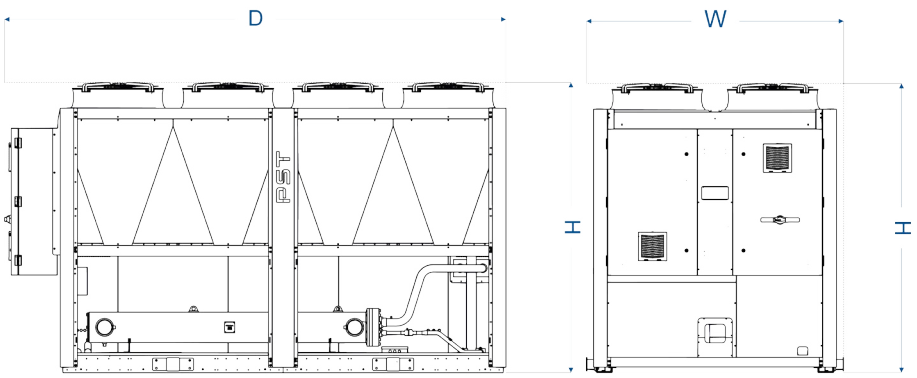
Model PNP - i (HE)

		215	235	250	285	320	360	400	440	480
Cooling capacity	kW	488	524	576	646	736	810	906	1034	1202
Cooling capacity	TR	138.75	149	163.8	183.7	209.3	230.3	257.6	294	341.7
Total absorbed power	kW	154.85	165.75	180.7	204	230.1	257.95	289.4	330.82	377.61
EER	-	3.15	3.16	3.19	3.17	3.20	3.14	3.13	3.13	3.18
Max external air temperature	℃	48	46	47	47	48	48	48	47	46
EXCHANGERS										
Evaporator pressure drops	kPa	43	38	54	49	35	46	52	46	39
Water flow	m^3/h	83.77	89.94	98.87	110.89	126.33	139.04	155.5	177.49	206.32
GENERAL DATA										
Refrigerant	-	R134A								
Circuits / Compressors	N°	2/(1+i)		2/2i						
Capacity control	%	12.5 ~ 100								
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50								
Protection class	-	IP54								
NOISE LEVEL										
Noise pressure	dB(A)	67	68	68	68	68	68	69	71	72
Noise power	dB(A)	99	100	100	101	101	101	102	104	105
SIZE AND WEIGHT										
Depth	mm	5490	5490	6490	7490	8490	9490	10490	11490	12490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	5898	6143	6637	7330	8023	8715	9408	10471	11533

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



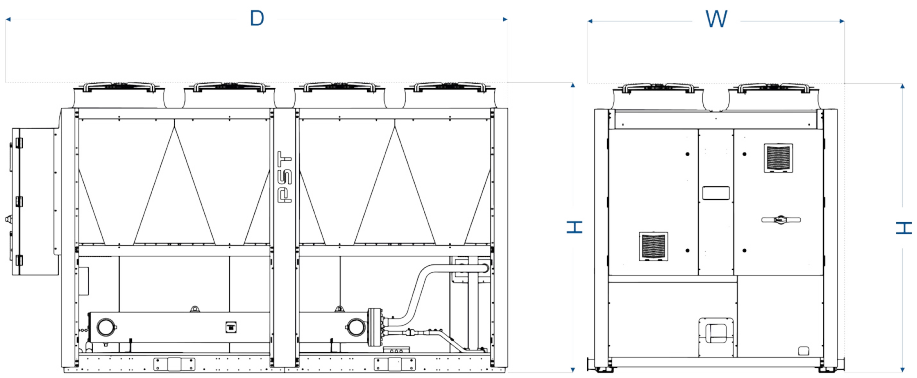
Model PNP - i (SHE)

		215	235	250	285	320	360	400	440	480
Cooling capacity	kW	478	508	568	638	728	794	882	1015	1188
Cooling capacity	TR	135.91	144.4	161.5	181.4	207	225.76	250.8	288.6	337.8
Total absorbed power	kW	153.72	166	177.4	199.65	224.5	254.66	288.4	326.5	369.97
EER	-	3.11	3.06	3.20	3.20	3.24	3.12	3.12	3.11	3.21
Max external air temperature	˚C	45	43	46	46	47	45	46	46	45
EXCHANGERS										
Evaporator pressure drops	kPa	41	35	53	45	34	44	49	45	38
Water flow	m^3/h	82.05	87.2	97.5	97.5	124.96	136.29	151.4	174.22	203.92
GENERAL DATA										
Refrigerant	-	R134A								
Circuits / Compressors	N°	2/(1+i)		2/2i						
Capacity control	%	12.5 ~ 100								
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50								
Protection class	-	IP54								
NOISE LEVEL										
Noise pressure	dB(A)	62	62	63	63	63	63	64	66	67
Noise power	dB(A)	94	94	95	96	96	96	97	99	100
SIZE AND WEIGHT										
Depth	mm	5490	5490	6490	7490	8490	9490	10490	11490	12490
Width	mm	2194	2194	2194	2194	2194	2194	2194	2194	2194
Height	mm	2670	2670	2670	2670	2670	2670	2670	2670	2670
Weight	kg	5898	6143	6637	7330	8023	8715	9408	10471	11533

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

or higher efficiency versions may differ ensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/ or higher efficiency versions may differ.)



PROCESS COOLING SOLUTIONS

AIR CONDITIONING SYSTEMS

Pars Sanat Tahvieh co.

NEPTUNE TECH

- Water-cooled water chillers and condenserless units featuring hermetic scroll compressors.
- Cooling capacity 189-570 kW

Benefits

- Up to 6 compressors offer high efficiency and reliability
- High energy efficiency levels, especially at partial loads
- Extremely compact, even passes through a domestic door
- Operates with water outlet temperatures from 0°C to 25°C
- Unloading function allowing operation even in extreme condi
- Self Adapting Control (SAC) with dynamic set point, for increased precision with low thermal inertias
- Robust design with high quality components from renowned suppliers, fruit of PST s industrial background:
- Reduced noise levels, thanks also to the availability of two differing acoustic versions
- Flexibility of use, sized for operation with either tower or well
- Energy efficient total heat recovery and desuperheater options
- Easy installation and access to all components
- Allows both inlet and outlet water control, with a PID control
- Generous ambient limits (-10°C to +45°C)
- Easy to use intuitive controller with dual icon display

Main options

- Noise reducing compressor housing
- Modulating condensing pressure control valves
- Antivibration dampers
- Soft starter
- Desuperheater (20% heat recoveryl
- Total heat recovery (100% heat recovery only chiller)
- Antifreeze heater for exchangers;
- Remote user interface;
- RS485 MODBUS interface for connection to supervisor sys-tems
- WEB300D remote supervision, allowing local or remote monitoring via web server or GPRS
- Matching cooling towers or dry coolers available on request
- Remote condensers for integration with ME units available on request

Standard Features

- 2 to 6 hermetic scroll compressors, positioned in parallel in one or two circuits
- Shell & tube evaporator and condenser
- Shut-off valve and solenoid valve on the liquid line
- Extensive inspections and tests performed on all units
- Factory charged with non-freezing oil and refrigerant
- IP54 electrical protection rating
- Environmentally friendly refrigerant R410A with zeroozone depletion potential
- All the scroll compressors are equipped with cranckcase heaters as standard
- All the units are delivered with a phase monitor which provides protection against phase loss and phase reversal

Versions:

- **NET -** Cooling only
- **NET Silent -** Low noise
- **NET / ME -** Condenserless unit combinable with remote condenser

Water-cooled chillers stand out in the HVAC industry as a technologically advanced solution for maintaining optimal temperature control in commercial, industrial, and residential settings. These chillers operate by leveraging water's inherent thermal conductivity properties to efficiently transfer heat away from the environment. The system typically comprises a compressor, evaporator, condenser, and expansion devices which work in harmony to achieve efficient heat exchange. Water-cooled chillers are particularly favored for applications requiring high cooling capacities.

One of the technical advantages of water-cooled chillers is their ability to maintain a consistently low condenser water temperature, which directly translates to enhanced energy efficiency. This is made possible by their closed-circuit design, which minimizes water consumption while maximizing heat transfer efficiency. Furthermore, these chillers are often equipped with advanced control systems that enable precise temperature adjustments, real-time monitoring, and diagnostics to ensure optimal performance and minimal energy wastage.

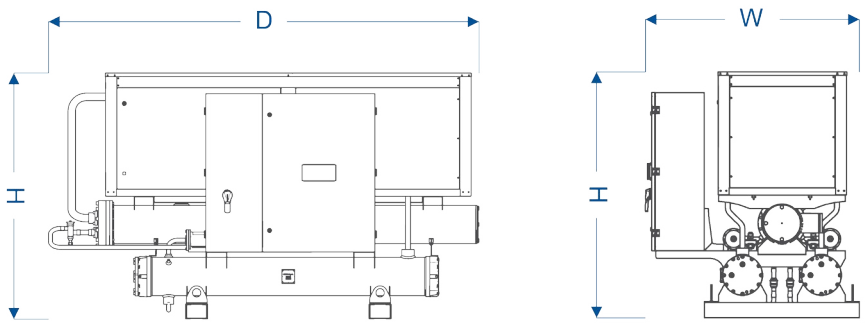
Model NET

		060	070	080	090	100	110	120	130	140	150	160	170	180
Cooling capacity	kW	189	215	239	264	290	338	382	404	429	449.5	478	519.5	570
Cooling capacity	TR	53.7	61.1	68	75	82.5	96.1	108.6	115	122	127.8	135.9	147.7	162
Total absorbed power	kW	41	46.3	52.6	56.6	63.6	72.6	82	87.3	92.6	98.7	105.2	114	123
EER	-	4.61	4.64	4.54	4.66	4.56	4.66	4.66	4.63	4.63	4.55	4.54	4.55	4.63
EXCHANGERS														
Evaporator pressure drops	kPa	37	36	38	44	53	27	45	50	52	28	26	32	48
Water flow	m^3/h	32.44	36.9	41.02	45.32	49.78	58.02	65.57	69.35	73.64	77.16	82.05	89.17	97.84
GENERAL DATA														
Refrigerant	-	R410A												
Circuits / Compressors	N°	1/ 2			2 / 4								2 / 5	2 / 6
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50												
Protection class	-	IP54												
NOISE LEVEL														
Noise pressure	dB(A)	57	57	58	58.5	58.5	59.5	60	60	60	60.5	61	61.5	62
Noise power	dB(A)	51	51	52	52.5	52.5	53.5	54	54	54	54.5	55	55.5	56
SIZE AND WEIGHT														
Depth	mm	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	3400	3400	3700
Width	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Height	mm	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Weight	kg	936	968	1000	1192	1192	1470	1657	1669	1806	1818	1880	2023	2266

(1) Evaporator IN/OUT: 12/7°C; condenser IN/OUT: 35/30°C;

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Valuas with tolerance $ 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted. (NB:dimensions for lower noise and/ or higher efficiency versions may differ.)



PROCESS COOLING
SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING
SYSTEMS

AQUARIUS PLUS

- High efficiency water cooled chillers and evaporating units with screw compressors and R134a refrigerant gas.

- Cooling capacity **358-1544** kW
- Cooling capacity evaporating units **328 - 1429** kW

Benefits

- 21 base models that perfectly match each specific system require ments
- High energy efficiency both at full load and at partial load
- Stepless cooling capacity regulation with self-adaptive control
- High precision and adaptability in cooling capacity regulation
- Compressors minimum partialization step 25%
- Heat exchangers with low water side pressure drops in order to save pumping costs
- Low sound levels, thanks also to the availability of two different acous tic versions
- Easy access to all components
- Fully bundled heat recovery solutions
- Condenser outlet water temperature up to 60°C

Main options

- Partial or total heat recovery
- Compressors acoustical enclosure (super silent acoustic configuration)
- Shut-off valves on suction line
- Soft starter device allows a reduction in start-up current reducing the mechanical stress for compressors
- Capacitors for compressors
- Condensing control kit (with servo-driven modulating valves or presSure control valves)
- Flanges kit on evaporator
- Flanges kit or Victaulic kit on condenser and total heat recovery
- Anti-vibration dampers kit
- Remote control with LCD display VGIP
- xWEB300D supervisor kit
- Cooling tower or dry cooler available on request
- Remote condenser available on request for condenserless

Acoustic configurations

- **Basic acoustic configuration:** compressors directly accessible.
- **Super silent acoustic configuration:** this configuration is optimised for very low noise operation: compressors are housed in a metal compartment insulated with a sound absorbing layer of open-cell expanded polyurethane and a sheet of sound deadening material (noise reduction - 6 db(A) in comparison with basic).

Standard Features

- Environmentally friendly refrigerant R134a with zero ozone depletion potential
- High efficiency screw compressors with stepless regulation optimized for R134a refrigerant gas
- Automatic circuit breakers for compressors
- Compressor crankcase heaters
- Check valve and shut-off valve on discharge line
- Electronic expansion valves
- Single pass shell & tubes heat exchangers optimized for R134a refrigerant gas
- Electrical panel with numbered wires, forced ventilation and IP54 protection class
- Phase monitor which provides protection against phase loss and phase reversal
- Microprocessor electronic control DRIVE with high computing capacity and user friendly interface, suitable for connection with supervisor system
- RS485 interface for connection to ModBus supervisor systems
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters.

Versions:

- **CH -** Cooling only version
- **ME -** Condenserless version
- **LWT -** Low Water Temperature (down to -8°C)

The Aquarius Plus water cooled screw chillers are the best solution for commercial and industrial applications when requirements are reliability and performances. They are designed to meet market requirements in terms of versatility and energy efficiency. Stepless cooling capacity regulation, electronic expansion valves and high efficiency heat exchangers with integrated heat recovery systems, contributes to obtain high performance both at full load and at partial load with exceptional ESEER value.

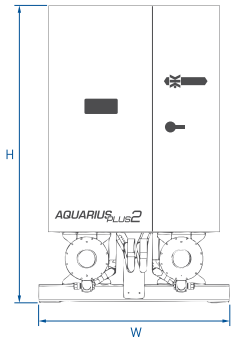
Model AQP

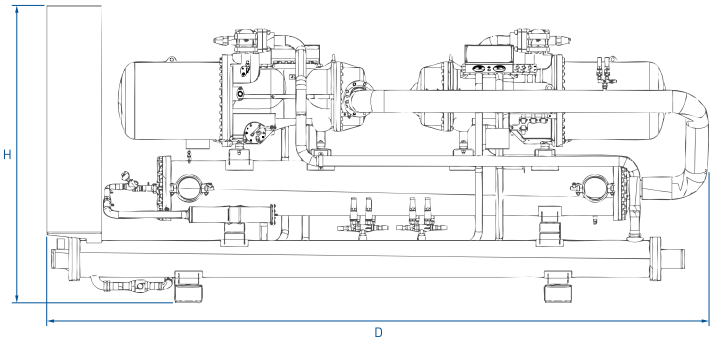
		1402	1502	1602	1702	1802	2002	2202	2352	2502	2652	2802
Cooling capacity	kW	343.4	372.7	412	441	476	513	562	587	620	656	704
Cooling capacity	TR	97.64	106	117.15	125.4	135.34	145.86	159.8	166.9	176.3	186.52	200.17
Total absorbed power	kW	70	77.4	85.2	91.1	97.2	103.6	110.4	117.1	124.2	132.5	141.6
EER	-	4.91	4.82	4.84	4.84	4.90	4.95	5.09	5.01	5	4.95	4.97
EXCHANGERS												
Evaporator pressure drops	kPa	31	37	32	44	41	47	43	43	37	24	29
Water flow	m^3/h	58.94	63.97	70.72	75.7	81.71	88.06	96.47	100.76	106.42	112.6	120.84
GENERAL DATA												
Refrigerant	-	R134A										
Circuits / Compressors	N°	2 / 2										
Capacity control	%	12.5 ~ 100										
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50										
Protaction class	-	IP54										
NOISE LEVEL												
Noise pressure	dB(A)	68	68	69	69	69	70	70	70	70	70.5	70.5
Noise power	dB(A)	62	62	63	63	63	64	64	64	64	64.5	64.5
SIZE AND WEIGHT												
Depth	mm	4150	4150	4300	4300	4300	4300	4300	4300	4300	4300	4300
Width	mm	1460	1460	1460	1460	1460	1460	1460	1460	1460	1390	1390
Height	mm	1640	1640	1640	1725	1725	1725	1725	1770	1770	2132	2132
Weight	kg	2110	2489	2918	2928	3018	3028	3048	3204	3380	3480	3490

(1) Evaporator IN/OUT: 12/7°C; condenser IN/OUT : 35/30°C;

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance t 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted.(NB:dimensions for lower noise and / or higher efficiency versions may differ.)





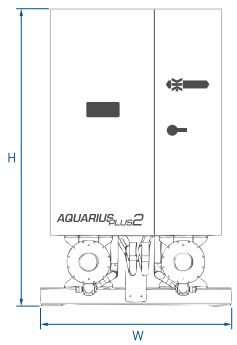
Model AQP

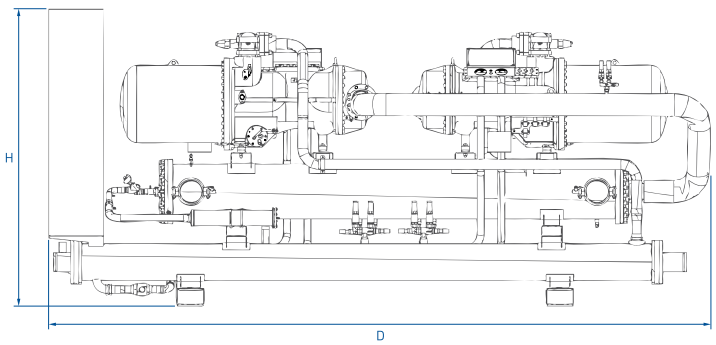
		3002	3202	3402	3602	3902	4202	4502	4802	5602	6402
Cooling capacity	kW	761	838	895	970	1030	1100	1167	1272	1362	1528
Cooling capacity	TR	216.4	238.27	254.48	275.8	292.86	312.8	331.8	361.7	387.26	434.46
Total absorbed power	kW	153.2	165.4	176.4	188.4	201.2	215.2	229.8	242.8	281.2	300.4
EER	-	4.97	5.07	5.07	5.15	5.12	5.11	5.08	5.24	4.84	5.09
EXCHANGERS											
Evaporator pressure drops	kPa	51	37	45	42	47	38	41	44	49	41
Water flow	m^3/h	130.63	143.84	153.63	166.5	176.8	188.81	200.32	218.34	233.79	262.28
GENERAL DATA											
Refrigerant	-	R134A									
Circuits / Compressors	N°	2 / 2									
Capacity control	%	12.5 ~ 100									
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50									
Protaction class	-	IP54									
NOISE LEVEL											
Noise pressure	dB(A)	70.5	71	71	71	71.5	72	72	72.5	72.5	73
Noise power	dB(A)	64.5	65	65	65	65.5	66	66	66.5	66.5	67
SIZE AND WEIGHT											
Depth	mm	4920	4920	4920	4920	4920	4920	4920	4920	4970	4970
Width	mm	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390
Height	mm	2132	2132	2165	2165	2278	2278	2287	2287	2287	2287
Weight	kg	3870	4420	4440	4645	4795	4945	5010	5710	5945	6265

(1) Evaporator IN/OUT: 12/7°C; condenser IN/OUT : 35/30°C;

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance t 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted.(NB:dimensions for lower noise and / or higher efficiency versions may differ.)





FREE COOLING CHILLERS

Pars Sanat Tahvieh co.

Free Cooling Chillers: An Efficient Solution for Year-Round Cooling

Our Free Cooling Chillers are designed to maximize energy efficiency and reduce operational costs by leveraging natural cooling when outdoor temperatures are low. Explore how these innovative chillers can benefit your operations.

What are Free Cooling Chillers?

Free Cooling Chillers are advanced cooling systems that utilize cool ambient air to provide cooling without relying solely on the compressor. When the outdoor temperature is sufficiently low, these chillers can switch to a free cooling mode, using outside air to cool the circulating water directly. This significantly reduces energy consumption and operational costs, especially in cooler climates or during the colder months of the year.

Benefits of Free Cooling Chillers

1.Energy Efficiency:

- By utilizing natural cooling, Free Cooling Chillers can dramatically lower energy usage. This is particularly beneficial during periods when outdoor temperatures drop, allowing the system to operate without the need for mechanical cooling.

2.Cost Savings:

- Reduced energy consumption leads to lower electricity bills and operational costs. Over time, the savings on energy expenses can be substantial, making Free Cooling Chillers a cost-effective solution for many businesses.

3.Environmental Impact:

- Lower energy usage translates to reduced greenhouse gas emissions, making Free Cooling Chillers an environmentally friendly option. This helps organizations meet sustainability goals and reduce their carbon footprint.

4.Extended Equipment Life:

- We source components from reputable suppliers who meet international safety standards, ensuring the reliability and safety of our HVAC systems.

Applications of Free Cooling Chillers

Data Centerst:

- Data centers require constant and reliable cooling to prevent overheating of servers and other critical equipment. Free Cooling Chillers provide an efficient way to maintain optimal temperatures, even during colder months, reducing energy costs significantly.

Industrial Processes:

- **Electrical Safety Tests:** We conduct tests to ensure that all electrical components and connections are safe and meet regulatory standards.

Commercial Buildings:

- Large commercial buildings, such as office complexes, shopping malls, and hospitals, can benefit from Free Cooling Chillers by reducing their energy consumption for air conditioning. This is particularly useful during the transitional seasons when outdoor temperatures are moderate.

Residential Complexes:

- In regions with cooler climates, residential complexes can utilize Free Cooling Chillers to provide efficient cooling for the inhabitants, ensuring comfort while keeping energy bills low.

How Free Cooling Chillers Work

1. Initial :

• During warmer periods, the chiller operates in standard mode, using the compressor to cool the circulating water.

2. Free Cooling Mode:

• When the outdoor temperature drops below a certain threshold, the chiller switches to free cooling mode. In this mode, the cool outdoor air is used to directly cool the circulating water through a heat exchanger.

3.Automatic Switching:

• The system is designed to automatically switch between mechanical cooling and free cooling based on the outdoor temperature, ensuring optimal energy efficiency at all times.

PROCESS COOLING
SOLUTIONS

AIR CONDITIONING
SYSTEMS

Pars Sanat Tahvieh co.

PHOENIX FC

- Cooling capacity **296-968** kW

Model PNP - FC

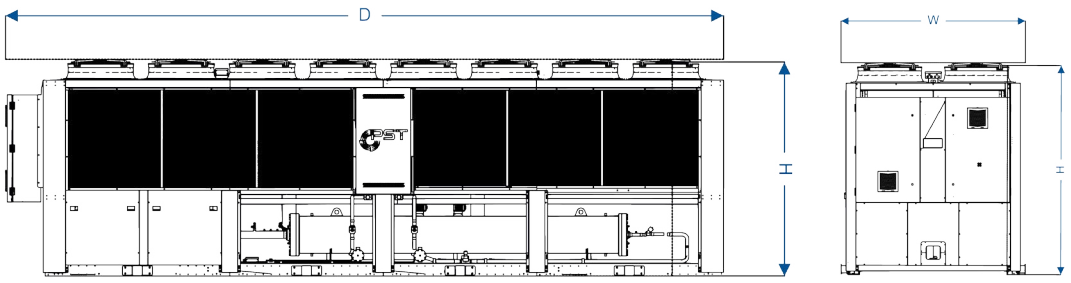
		140	160	180	220	250	280	320	360	420
FREE-COOLING OFF										
Cooling capacity	kW	296	365	420	498	542	620	726	850	968
Cooling capacity	TR	84.16	103.78	119.4	141.6	154	176.3	206.43	241.68	275.23
Total absorbed power	kW	97.4	115.32	130.4	151	170.6	189.32	229.32	252.4	297.6
EER	-	3.04	3.17	3.22	3.30	3.18	3.27	3.17	3.37	3.25
Max external air temperature	˚C	48	48	48	49	47	48	47	47	46
FREE-COOLING ON 100%										
Free Cooling capcity	kW	293.6	364	415.2	494.4	532.8	610.4	721.6	840	960
Total Free Cooling Temperature	˚C	-0.3	-2.8	-4.5	-0.5	-1	-4.5	-1.3	-5.7	-2.4
EER	-	24.46	29.54	32.43	25.75	27.75	32.60	27.83	33.01	32.00
EXCHANGERS										
Evaporator pressure drops	kPa	28	32	43	45	31	49	54	50	54
Water flow	m^3/h	58.08	68.03	78.28	92.82	101.02	115.56	135.31	158.2	180.42
GENERAL DATA										
Refrigerant	-	R134A								
Circuits / Compressors	N°	2/2								
Capacity control	%	12.5 ˜ 100								
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50								
Protection class	-	IP54								
NOISE LEVEL										
Noise pressure	dB(A)	68	68	68	69	69	70	70	70	70
Noise power	dB(A)	100	100	100	101	101	102	102	102	103
SIZE AND WEIGHT										
Depth	mm	5550	5550	5550	7190	7190	7190	8790	8790	10590
Width	mm	2290	2290	2290	2290	2290	2290	2290	2290	2290
Height	mm	2648	2648	2648	2648	2648	2648	2648	2648	2648
Weight	kg	4058	5089	5266	6370	6531	6723	8770	9297	10607

(1) External ambient temperature: 35˚C; evaporator IN/OUT: 7/12˚C

(2) Fluid Type : Water – Ethylene glycol 30 %

(3) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 Db. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted.(NB:dimensions for lower noise and/or higher efficiency versions may differ.)



ROOFTOP UNIT

Pars Sanat Tahvieh co.

Rooftop Units: Efficient and Versatile HVAC Solutions

Our RTUs are designed to provide reliable and efficient heating, ventilation, and air conditioning (HVAC) solutions for a variety of applications. Explore the features, benefits, and applications of our high-quality rooftop units.

What are Rooftop Units?

Rooftop Units (RTUs) are self-contained HVAC systems that are typically installed on the roof of a building. These units are designed to provide heating, cooling, and ventilation from a single, compact system, making them ideal for commercial and industrial applications. RTUs are engineered for easy installation, maintenance, and operation, ensuring consistent performance and comfort.

Benefits of Our Rooftop Unitst

1.Energy Efficiency:

- Our RTUs are designed with advanced technology to maximize energy efficiency, helping to reduce operational costs and environmental impact.

2.Ease of Installation:

- The all-in-one design of our RTUs simplifies the installation process, saving time and labor costs. They can be quickly installed on the roof without the need for extensive ductwork or indoor space.

3.Space-Saving Design:

- By placing the HVAC system on the roof, our RTUs free up valuable indoor space that can be used for other purposes.

4.Reliability and Durability:

- Built with high-quality materials and components, our RTUs are designed to withstand harsh weather conditions and provide reliable performance year-round.

5.Versatility:

- Our RTUs can be configured to meet the specific needs of different applications, including variable air volume (VAV) systems, constant air volume (CAV) systems, and more.

6.Advanced Controls:

- Equipped with modern control systems, our RTUs offer precise temperature and humidity control, as well as integration with building management systems (BMS).

Types of Rooftop Units

Standard Rooftop Units

Features:

- Integrated heat recovery systems to capture and reuse waste heat
- Improved energy efficiency and reduced operational costs
- Versatile configurations for various building types

Application:

- Industrial facilities
- Data centers
- Large office complexes

High-Efficiency Rooftop

Standard Rooftop Units

Features:

- Enhanced energy efficiency with advanced compressors and heat exchangers
- Variable speed fans for better air distribution and energy savings
- Ideal for buildings with high energy efficiency requirements

Application:

- Schools
- Hospitals
- Shopping malls

Heat Recovery Rooftop Units

Standard Rooftop Units

Features:

- Integrated heat recovery systems to capture and reuse waste heat
- Improved energy efficiency and reduced operational costs
- Suitable for environments where both heating and cooling are required simultaneously

Application:

- Industrial facilities
- Data centers
- Large office complexes

Packaged Rooftop Units

Standard Rooftop Units

Features:

- Complete HVAC system in a single unit
- Simplified installation and maintenance
- Versatile configurations for various building types

Application:

- Warehouses
- Manufacturing plants
- Commercial complexes

Applications of Rooftop Units

Commercial Buildings:

- Our RTUs provide efficient heating and cooling for office buildings, retail stores, restaurants, and other commercial spaces, ensuring a comfortable environment for employees and customers.

Industrial Facilities:

- In industrial settings, our RTUs offer robust and reliable climate control, maintaining optimal temperatures for manufacturing processes and worker comfort.

Educational Institutions:

- Schools and universities benefit from our energy-efficient RTUs, which help maintain a conducive learning **environment while reducing energy costs.**

Healthcare Facilities:

- Hospitals and clinics require precise temperature and humidity control, and our RTUs deliver reliable performance to meet these stringent requirements.

PROCESS COOLING SOLUTIONS

AIR CONDITIONING SYSTEMS

Pars Sanat Tahvieh co.

POLARIS TECH

Cooling capacity **50-250** kW

Why Choose PST Rooftop Units?

- **Innovative Technology:** Our RTUs incorporate the latest HVAC technologies to deliver superior performance and energy efficiency.
- **Custom Solutions:** We offer a variety of models and configurations to meet the unique needs of different applications and environments.
- **Expert Support:** Our team of experts is available to provide consultation, installation, and maintenance services, ensuring your RTUs operate at peak performance.

Model Polaris

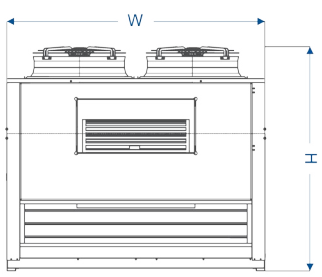
		181	201	241	301	351	401
Cooling capacity	kW	50.4	57.5	62.5	85	101	112.2
Cooling capacity	TR	14.3	16.35	17.77	24.17	28.72	31.9
Compressor power input	kW	12.95	15.6	17.8	24.4	25.65	29.2
EER	-	3.08	3.02	2.94	3.00	3.16	3.07
Max external air temperature	˚C	51	49	49	47	51	50
Supply Fan							
Air flow rate	m^3/h	7800	8500	9800	12000	13500	14500
Nominal External Static Perssure	Pa	250	250	250	250	250	250
GENERAL DATA							
Refrigerant	-	R410A					
Circuits / Compressors	N°	1/2					
Power supply	V/Ph/Hz	400 ± 10% / 3 +N- PE / 50					
Protection class	-	IP54					
NOISE LEVEL							
Noise pressure	dB(A)	60	61	61	64	64	65
Noise power	dB(A)	90	91	91	94	94	95
SIZE AND WEIGHT							
Depth	mm	3100	3100	3300	3500	3600	3600
Width	mm	1700	1700	1700	2250	2250	2250
Height	mm	1775	1775	1775	1950	1950	2015
Weight	kg	358	359	404	514	651	737

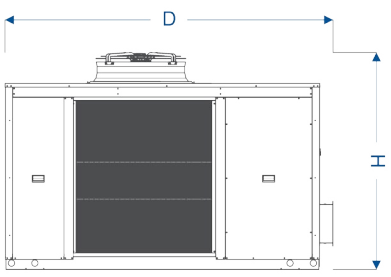
(1) Coolig: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%

(2) ESP for standard configuration (optional accessories not included/calculated)

(3) Sound power on the basis of measurements made in compliance with ISO 3744.

(4)Unit in standard configuration/execution, without optional accessories





Model Polaris

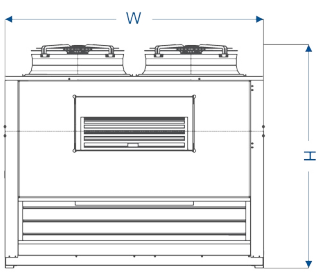
		451	501	551	601	701	902
Cooling capacity	kW	126.5	147.1	157.6	187	207.5	250.4
Cooling capacity	TR	35.97	41.83	44.81	53.17	59	71.2
Total absorbed power	kW	32.65	39.4	44.05	47.8	56	66.4
EER	-	3.17	3.15	3.07	3.11	3.04	3.10
Max external air temperature	℃	49	47	46	50	49	48
Supply Fan							
Air flow rate	m^3/h	16000	18300	19500	22000	25000	28000
Nominal External Static Perssure	Pa	250	250	250	250	250	250
GENERAL DATA							
Refrigerant	-	R410A					
Circuits / Compressors	N°	1/2					2/4
Power supply	V/Ph/Hz	400 ± 10% / 3 +N- PE / 50					
Protection class	-	IP54					
NOISE LEVEL							
Noise pressure	dB(A)	65	67	67	67	69	71
Noise power	dB(A)	95	97	97	97	99	101
SIZE AND WEIGHT							
Depth	mm	4000	4000	4000	4300	4500	4700
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2500	2500	2500	2500	2500	2500
Weight	kg	860	957	993	1117	1146	1567

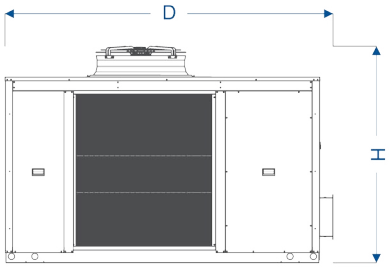
(1) Coolig: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%

(2) ESP for standard configuration (optional accessories not included/calculated)

(3) Sound power on the basis of measurements made in compliance with ISO 3744.

(4) Unit in standard configuration/execution, without optional accessories





AIR HANDLING UNITS

Pars Sanat Tahvieh co.

Air Handling Units (AHUs): Comprehensive Climate Control Solutions

Our AHUs are engineered to provide precise and efficient climate control for a wide range of applications, ensuring optimal air quality and comfort in residential, commercial, and industrial environments. Explore the features, benefits, and applications of our high-quality Air Handling Units.

What are Air Handling Units?

Air Handling Units (AHUs) are essential components of HVAC systems that condition and circulate air within buildings. They typically include components such as fans, filters, heating/cooling coils, humidifiers, and dampers. AHUs are designed to control temperature, humidity, and air quality, making them crucial for maintaining a comfortable and healthy indoor environment.

Benefits of Our Air Handling Units

1.Enhanced Air Quality:

- Our AHUs are equipped with advanced filtration systems that remove dust, pollen, and other airborne contaminants, ensuring clean and healthy indoor air.

2.Energy Efficiency:

- Designed to optimize energy use, our AHUs help reduce operational costs while maintaining consistent performance and comfort levels.

3.Customizable Solutions:

- We offer a range of AHU models with customizable features to meet the specific requirements of different environments and applications.

4.Reliable Performance:

- Built with high-quality materials and components, our AHUs deliver reliable and long-lasting performance, minimizing downtime and maintenance costs.

5.Quiet Operation:

- Engineered for low noise levels, our AHUs ensure a quiet and comfortable indoor environment, ideal for both residential and commercial spaces.

Types of Air Handling Units

Compact Air Handling Units

Modular Air Handling Units

Features:

- Flexible design for easy customization
- High-efficiency components for energy savings
- Suitable for a wide range of applications

Application:

- Office buildings
- Shopping malls
- Hospitals

Standard Rooftop Units

Features:

- Space-saving design for limited spaces
- Quiet and efficient operation
- Ideal for smaller commercial and residential applications

Application:

- Apartments
- Small offices
- Retail stores

Rooftop Air Handling Units

Packaged Rooftop Units

Rooftop Air Handling Units

Features:

- Designed for outdoor installation on rooftops
- Weather-resistant construction
- High capacity for large commercial and industrial buildings

Application:

- Factories
- Warehouses
- Large office complexes

Hygienic Air Handling Units

Features:

- Specialized design for environments with strict hygiene requirements
- Easy to clean and maintain
- Advanced filtration and sterilization options

Application:

- Hospitals
- Clean rooms
- Pharmaceutical facilities

Applications of Air Handling Units

Residential:

- Our AHUs ensure optimal air quality and comfort for homes and apartments, providing efficient heating, cooling, and ventilation.

Commercial:

- Ideal for office buildings, hotels, shopping centers, and restaurants, our AHUs offer reliable climate control solutions that enhance comfort and productivity.

Industrial:

- In industrial settings, our AHUs provide robust and efficient climate control for factories, warehouses, and other large facilities, ensuring a safe and comfortable working environment.

Healthcare:

- Our AHUs are perfect for healthcare facilities such as hospitals and clinics, where precise temperature, humidity control, and air quality are critical for patient care and safety.

PROCESS COOLING SOLUTIONS

Pars Sanat Tahvieh co.

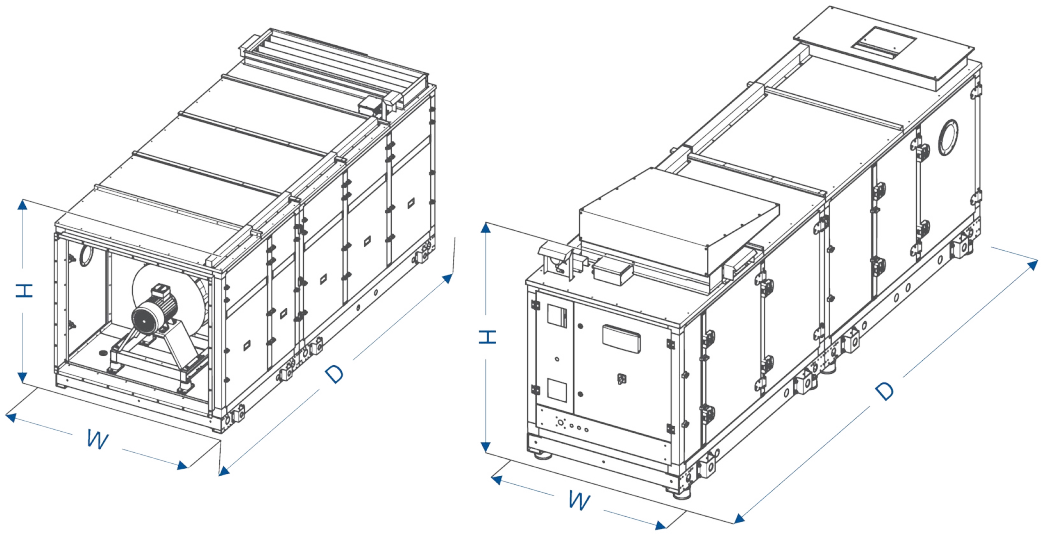
AIR CONDITIONING SYSTEMS

AIR HANDING UNITS

Cooling capacity **50-250** kW

PST AHU		width (mm)							
		1020	1325	1630	1935	2220	2670	3300	4000
Height (mm)	1045	4000	5100-6000						
	1225		6800-7600						
	1555		8500-11000	11900-14500	15300-17800				
	1845				18700-21200				
	2145				22000-25500				
	2230					26500-30500	31500-37500	38000-47000	
	2850							47500-63000	63500-68000

* max. velocity on coils is 2.5 m/s
*Airflow unit is m3/h
*AHUs with larger sizes can be provided



HYDRONIC TERMINALS

Pars Sanat Tahvieh co.

Fan Coil Units:
Comfort and Efficiency for Every Environment

Our Fan Coil Units (FCUs) are designed to provide efficient and reliable heating and cooling solutions for a variety of applications, ensuring comfort and energy efficiency in residential, commercial, and industrial environments. Discover the features, benefits, and applications of our high-quality Fan Coil Units.

What are Fan Coil Units?

Fan Coil Units are versatile HVAC devices used to regulate the temperature in individual rooms or spaces. They consist of a fan and a heat exchanger (coil) and can be connected to a central chiller or boiler system. FCUs can deliver both heating and cooling, making them a flexible and efficient choice for temperature control.

Benefits of Our Fan Coil Units

1.Energy Efficiency:

- Our FCUs are designed to maximize energy efficiency, helping to reduce operational costs while maintaining optimal comfort levels.

2.Quiet Operation:

- Engineered for low noise levels, our FCUs ensure a quiet and comfortable environment, making them ideal for use in residential and office spaces.

3.Compact Design:

- With their sleek and compact design, our FCUs can be easily installed in various settings without taking up too much space or disrupting the aesthetic of the room.

4.Easy Installation and Maintenance:

- Our FCUs are designed for easy installation and maintenance, ensuring hassle-free operation and long-term reliability.

5.Advanced Control Options:

- Equipped with advanced control systems, our FCUs offer precise temperature control and integration with smart home or building management systems.

Types of Fan Coil Units

Ceiling Mounted Fan Coil Units

Features:

- Space-saving design for ceiling installation
- Quiet and efficient operation
- Ideal for offices, hotels, and commercial spaces

Application:

- Office buildings
- Hotels
- Conference rooms

Wall Mounted Fan Coil Units

Features:

- Easy wall-mounted installation
- Sleek and modern design
- Perfect for residential and commercial use

Application:

- Apartments
- Houses
- Retail stores

Floor Mounted Fan Coil Units

Features:

- Sturdy and reliable design for floor installation
- Suitable for spaces with limited wall or ceiling space
- Excellent heating and cooling performance

Application:

- Hospitals
- Schools
- Industrial facilities

Concealed Fan Coil Units

Features:

- Hidden installation within ceilings or walls
- Discreet and unobtrusive
- Ideal for high-end residential and commercial properties

Application:

- Luxury apartments
- Upscale hotels
- Executive offices

Applications of Fan Coil Units

Residential:

- Our FCUs provide comfortable and efficient heating and cooling for homes, apartments, and villas, ensuring a pleasant living environment throughout the year.

Commercial:

- Designed to meet the demands of commercial spaces, our FCUs are ideal for offices, retail stores, hotels, and restaurants, providing consistent and reliable temperature control.

Industrial:

- In industrial settings, our FCUs offer robust and efficient heating and cooling solutions, suitable for factories, warehouses, and other industrial facilities.

Healthcare:

- Our FCUs are perfect for healthcare facilities such as hospitals and clinics, where precise temperature control and quiet operation are critical for patient comfort and care.

PROCESS COOLING
SOLUTIONS

Pars Sanat Tahvieh co.

AIR CONDITIONING
SYSTEMS

FAN COIL UNITS

Air Flow : **510-4400 m^3/ h (12 - 120 pa)**

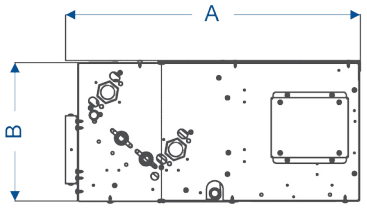
PST fan coils:

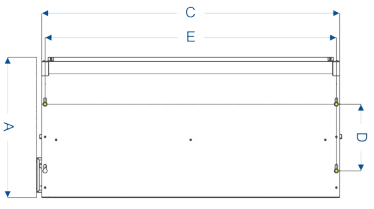
Model			51	68	102	136	170	204
AiR flow	max	m^3/h	510	680	1020	1360	1700	2040
	med		390	510	770	1020	1280	1530
	min		260	340	510	680	850	1020
Total cooling capacity	max	W	2700	3600	5400	7200	9000	10800
	med		2242	2989	4483	5978	7472	8967
	min		1744	2325	3487	4649	5812	6974
Sansible cooling capacity	max		2052	2736	4103	5471	6839	8207
	med		1771	2362	3541	4722	5903	7084
	min		1430	1907	2860	3813	4765	5718
Heating capacity	max		4050	5400	8100	10800	13500	16200
	med		3197	4262	6393	8524	10655	12786
	min		2511	3349	5024	6697	8372	10046
pressure drop		KPa	15	18	28	30	22	30
Sound power level		dB	39	41	45	46	48	50
Dimension	A	mm	494	494	494	494	494	494
	B	mm	234	234	234	234	234	234
	C	mm	658	808	1008	1358	1508	1658
	D	mm	610	760	960	1310	1460	1610
	E	mm	633	783	983	1333	1483	1633

PST fan coils:

Model			51+1	68+1	102+1	136+1	170+1	204+1
AiR flow	max	m^3/h	510	680	1020	1360	1700	2040
	med		390	510	770	1020	1280	1530
	min		260	340	510	680	850	1020
Total cooling capacity	max	W	2700	3600	5400	7200	9000	10800
	med		2242	2989	4483	5978	7472	8967
	min		1744	2325	3487	4649	5812	6974
Sansible cooling capacity	max		2052	2736	4103	5471	6839	8207
	med		1771	2362	3541	4722	5903	7084
	min		1430	1907	2860	3813	4765	5718
Heating capacity	max		1940	2590	3890	5180	6480	7780
	med		1530	2040	3060	4070	5090	6110
	min		1230	1630	2450	3270	4080	4900
pressure drop		KPa	15	18	28	30	22	30
Sound power level		dB	39	41	45	46	48	50
Dimension	A	mm	494	494	494	494	494	494
	B	mm	234	234	234	234	234	234
	C	mm	658	808	1008	1358	1508	1658
	D	mm	610	760	960	1310	1460	1610
	E	mm	633	783	983	1333	1483	1633

Total cooling capacity at the following conditions: water inlet-outlet temperature 7-12 °C. Air temperature 19 °C (wb) / 27 °C (db).
Heating capacity at the following conditions: water inlet temperature 50 °C. Air temperature 20 °C.





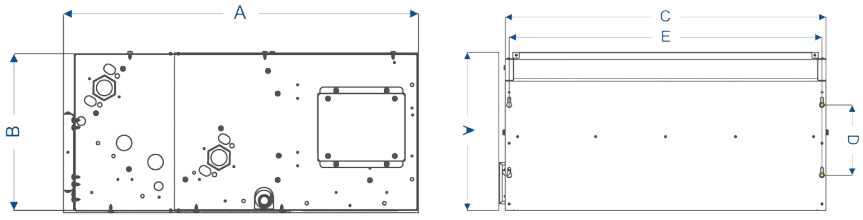
EUE fan coils:

			430	630	730	930
Air flow	max	m3/h	485	760	925	1500
	med.	m3/h	335	590	735	1210
	min.	m3/h	265	415	535	830
Total cooling capacity	max	W	2870	4090	5110	6740
	med.		2140	3370	4290	5870
	min.		1730	2540	3340	5870
Sensible cooling capacity	max		2190	3200	3950	5550
	med.		1600	2590	3270	4730
	min.		1280	1910	2500	3490
Heating capacity	max		3560	5090	6270	9060
	med.		2610	4130	5190	7720
	min.		2090	3070	4010	5710
(Cooling mode) Pressure drop	max	kPa	27.2	19.8	34.2	24.6
	med.	kPa	16.2	14.1	25.1	19.3
	min.	kPa	11.2	8.6	16.2	11.9
(Heating mode) Pressure drop	max	kPa	23.1	16.8	29.1	2.9
	med.	kPa	13.8	12	21.3	15.4
	min.	kPa	9.5	7.3	13.8	10.1
Sound power level	max	dB(A)	47	52	56	64
	med.	dB(A)	39	46	51	58
	min.	dB(A)	33	37	42	50
Sound pressure level (*)	max	dB(A)	38	43	47	55
	med.	dB(A)	30	37	42	49
	min.	dB(A)	24	28	33	41

EUE fan coils:

Model			430	630	730	930
Dimension	A	mm	525	525	525	525
	B	mm	234	234	234	234
	C	mm	689	904	1119	1244
	D	mm	641	856	1071	1196
	E	mm	664	879	1094	1219

Total cooling capacity at the following conditions: water inlet-outlet temperature 7-12 °C. Air temperature 19 °C (wb) / 27 °C (db).
Heating capacity at the following conditions: water inlet temperature 50 °C. Air temperature 20 °C.



Duct fan coils:

- **The following standard rating conditions are used:**
- COOLING (summer mode)
- Entering air temperature + °27C d.b. +°19C w.b.
- Water temperature + °7C E.W.T. + °12C L.W.T.
- HEATING (winter mode)
- Entering air temperature + °20C
- Water temperature + °60C E.W.T. + °50C L.W.T.

- AVAILABLE PRESSURE: 0 Pa

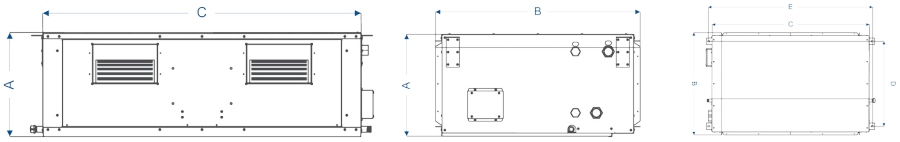
MTO fan coils:

			13	23	33	43	53
Air flow	max	m3/h	1925	2510	2790	3400	4400
	med.	m3/h	1340	1550	2300	2855	3540
	min.	m3/h	995	855	1815	2265	2905
Total cooling capacity	max	W	6020	8310	9890	12620	16670
	med.		4950	6410	8910	11480	14770
	min.		4190	4500	7820	10080	13210
Sensible cooling capacity	max		5730	7530	8680	10870	14670
	med.		4410	5360	7570	9610	15530
	min.		3550	3470	6410	8160	10850
Heating capacity	max		12330	16440	19100	23850	31420
	med.		9730	11920	16800	21210	27140
	min.		7910	7750	14270	18060	23640
(Cooling mode) Pressure drop	max	kPa	13.7	27.4	28.8	28.0	26.5
	med.	kPa	9.6	16.9	23.8	23.0	21.2
	min.	kPa	7.0	8.7	18.7	18.0	17.2
(Heating mode) Pressure drop	max	kPa	11.0	20.9	21.1	15.0	18.4
	med.	kPa	7.1	11.4	16.6	12.0	14.1
	min.	kPa	4.8	5.1	12.3	9.0	10.9
Sound power level	max	dB(A)	63	68	68	72	75
	med.	dB(A)	56	59	64	67	71
	min.	dB(A)	49	47	60	63	66
Sound pressure level (*)	max	dB(A)	54	59	59	63	66
	med.	dB(A)	47	50	55	58	62
	min.	dB(A)	40	38	51	54	57

MTO fan coils:

Model			13	23	33	43	53
Dimension	A	mm	304	344	344	364	415
	B	mm	695	695	695	850	850
	C	mm	1133	1133	1133	1445	1445
	D	mm	617	617	617	771	771
	E	mm	1178	1178	1178	1490	1490

Total cooling capacity at the following conditions: water inlet-outlet temperature 7-12 °C. Air temperature 19 °C (wb) / 27 °C (db).
Heating capacity at the following conditions: water inlet temperature 50 °C. Air temperature 20 °C.



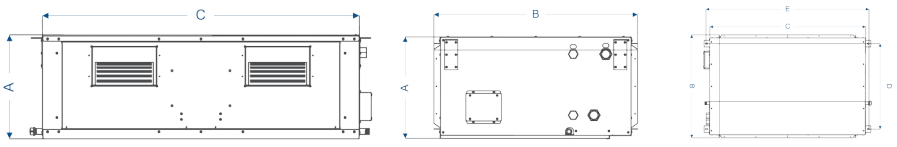
MTO fan coils:

			13+1	23+1	33+1	43+1	53+1
Air flow	max	m3/h	1835	2360	2745	3340	4330
	med.	m3/h	1315	1535	2265	2820	3505
	min.	m3/h	940	855	1795	2245	2885
Total cooling capacity	max	W	5880	8040	9820	12490	16500
	med.		4910	6380	8840	11390	14700
	min.		4050	4500	7760	10020	13150
Sensible cooling capacity	max		5540	7210	8590	10730	14480
	med.		4360	5320	7500	9520	12440
	min.		3410	3470	6350	8100	10790
Heating capacity	max		6580	8440	10080	13040	16730
	med.		5510	6760	9120	11930	14920
	min.		4580	4780	8070	10540	13420
(Cooling mode) Pressure drop	max	kPa	13.2	25.8	28.4	28.0	26.1
	med.	kPa	9.4	16.8	23.5	23.0	21.0
	min.	kPa	6.6	8.7	18.4	18.0	17.1
(Heating mode) Pressure drop	max	kPa	26.5	44.8	27.5	48.0	44.6
	med.	kPa	19.2	29.8	23.0	41.0	36.4
	min.	kPa	13.7	15.9	18.4	32.0	30.0
Sound power level	max	dB(A)	63	68	68	72	75
	med.	dB(A)	56	59	64	67	71
	min.	dB(A)	49	47	60	63	66
Sound pressure level (*)	max	dB(A)	54	59	59	63	66
	med.	dB(A)	47	50	55	58	62
	min.	dB(A)	40	38	51	54	57

MTO fan coils:

Model			13+1	23+1	33+1	43+1	53+1
Dimension	A	mm	304	344	344	364	415
	B	mm	695	695	695	850	850
	C	mm	1133	1133	1133	1445	1445
	D	mm	617	617	617	771	771
	E	mm	1178	1178	1178	1490	1490

Total cooling capacity at the following conditions: water inlet-outlet temperature 7-12 °C. Air temperature 19 °C (wb) / 27 °C (db).
Heating capacity at the following conditions: water inlet temperature 50 °C. Air temperature 20 °C.



PST

Pars Sanat Tahvieh co.

Website: **www.psthvac.com**
Email: **info@psthvac.com**

Phone: **021 26 76 37 10**
Fax: **021 26 76 37 22**

Flat NO.1,NO 36, Moqaddas st, (11 West) South Shahrdari Blvd Gheysar Amin pour, Sq Saadat Abad, Tehran-Iran

Kar Blvd.,Soleman Sabahi Indutrial Town,Kashan-Iran