

AYJAY

PHARMA



Temperature Controlled Pharmaceutical Solutions

Coldroom Fabric
Refrigeration
Control Systems
Monitoring Systems
Lighting Design
Electrical Systems
Validation

Pharmaceutical
Biotechnologies
Healthcare
Medical
Cosmetics
Lifescience
Petrochemical



Ayjay Pharma - Excellence in Engineering...

Why Choose Us?

We understand that creating the correct temperature-controlled environment is critical for protecting your valuable product.

We have the capability to design and deliver turn-key projects, with our experienced team producing solutions to work and assist you or your consultants in achieving clarity for your user requirement specification (URS).

Full Project Solution

Taking the project from design conception through to completion, we make sure the customer has a dedicated Project Manager to ensure a transparent and seamless process.

We have in-house mechanical and electrical design engineers with specialisms in thermal dynamics.

Quality Products & Service

We use efficient, effective and quality products specifically chosen to fit the customer requirement and environment.

We select products based on the requirement rather than standard.

Our Commitment...

We are 100% committed to health & safety and ensure safe working environments during our installations or maintenance. Our commitment and investment in employee development means our teams are qualified, competent and fully up-to-date with working practices and procedures within a pharmaceutical environment.

“We are experts in temperature application and design.”

Design Solutions

Control Systems

Lighting

Facilities Maintenance

Service Features

Mechanical

Refrigeration

Electrical

Temperature Control

Ayjay Pharma will provide a fully designed system to meet your exacting needs and temperature requirements.

For example;

Chilled room 2-8°C (5°C±0.5°C).

Freezer room -20°C (20°C ±0.5°C)

We have developed a unique and bespoke control system that we offer to our clients.

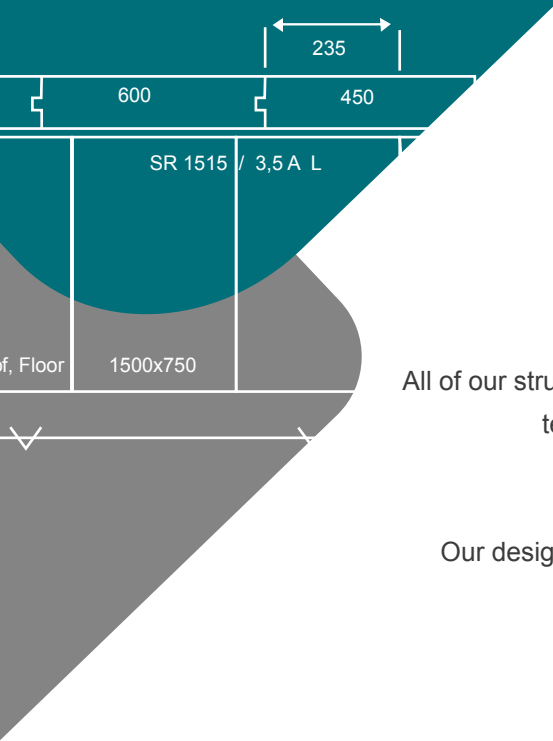
This system is adaptable dependent on your needs and can incorporate such items as:

- 'What If' scenarios, including localised temperature spikes and actions prior to system alarm activation.
- Pre-alarms, high temp, low temp:
 - Automatic system shut down on low temperature.
 - Automatic stand-by system activation on high temperature before alarms.
- UPS failsafe system for automated doors.
- Interlocks for temperature and access control.
- Single and multiple staged system operation.

Scrappage temperatures

At Ayjay Pharma, we understand the scrappage implications for your valued product and design our systems to safeguard and protect against product loss.





Coldroom Fabric

The fabric of the coldroom is vitally important to maintain temperature. All of our structures (rooms) are pre-calculated to retain the room temperature from external temperature ingress, in the event of a total power failure. This time frame will be determined by product load, room size and fabric wall and ceiling thickness.

Our design team will ensure the correct panel size is selected based on these principles:

- Structural integrity
 - Vapour seal
- Entrance systems and air-locks
- Ambient temperature ingress control
 - Hygienic easy clean surfaces
- Independent suspended ceilings and walls
 - Fire rated rooms

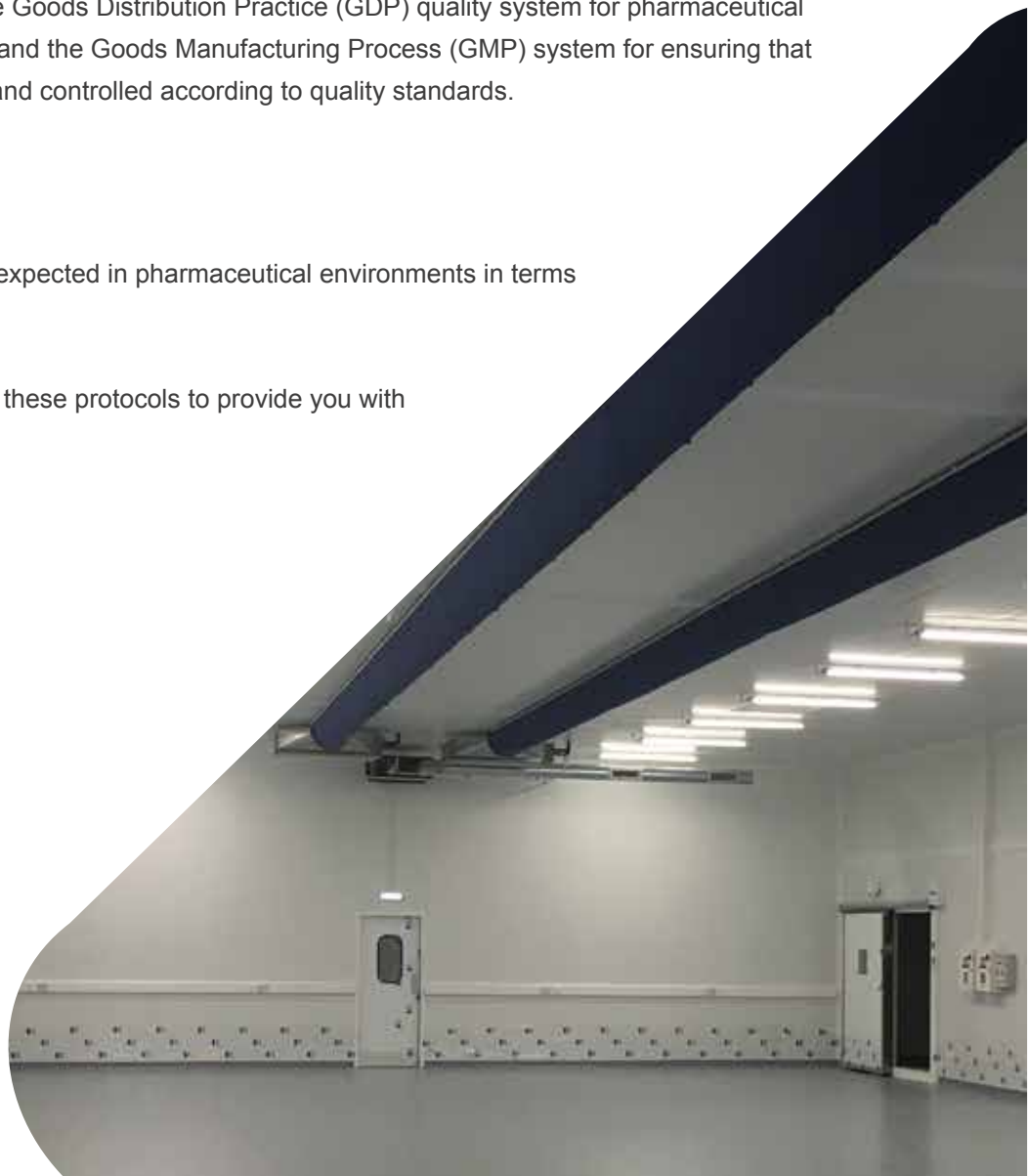
Understanding Regulations

We are fully conversant with both the Goods Distribution Practice (GDP) quality system for pharmaceutical warehouse and distribution centres; and the Goods Manufacturing Process (GMP) system for ensuring that products are consistently produced and controlled according to quality standards.

Live-site Protocols

We are aware of the strict protocols expected in pharmaceutical environments in terms of operation and behaviour.

Our teams are trained to work within these protocols to provide you with an exemplary service.



Refrigeration

We design and install our refrigeration systems to N+1 (run and standby) to ensure system reliability in the event of component failure. In addition to N+1 we also consider air flow within the space during modelling especially during off cycle or failure and so consideration of the location/size/power of each evaporator or fan motor is critical in relation to the room and the product.

By taking this care and consideration during the design phase of the project, we ensure we minimise any hot and cold spots. This fundamental practice delivers 1st time validation during the crucial mapping and validation stage.

Evaporators

At Ajjay Pharma we can design bespoke evaporators to create the correct solution for the cold room and its product. Some key factors we consider:

- Air velocity
- Safe isolation of components
- Energy consumption
- Physical size and weight
- Ease of maintenance
- Corrosion protection
- Materials used and environment effect

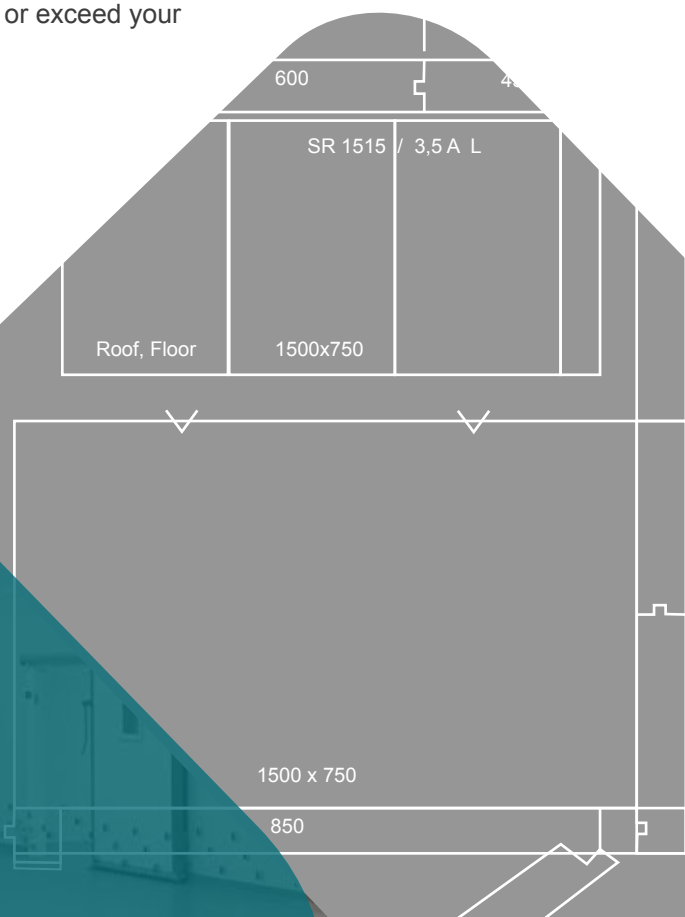
Condensing Units

Condensing units are the core to any refrigeration system and so particular attention is given both to their N+1 operation and functionality.

In addition to key components and control, particular attention is given to refrigerant pipe design as this has a fundamental impact on the systems efficiency and operation. Our design team ensures that all aspects within the refrigeration system, from condensate waste water drainage to materials used, are detailed within our selection to match or exceed your specification and requirements.

We can offer complete bespoke built packages and below are some examples:

- Ambient conditions - designs up to 43°C
- Variable load control - for irregular heat load conditions
- FGas - both its environmental impact and suitability for the application
- Maintenance & diagnostics
- Attenuation - sensitive environments
- Pump down capacity
- Corrosion protection



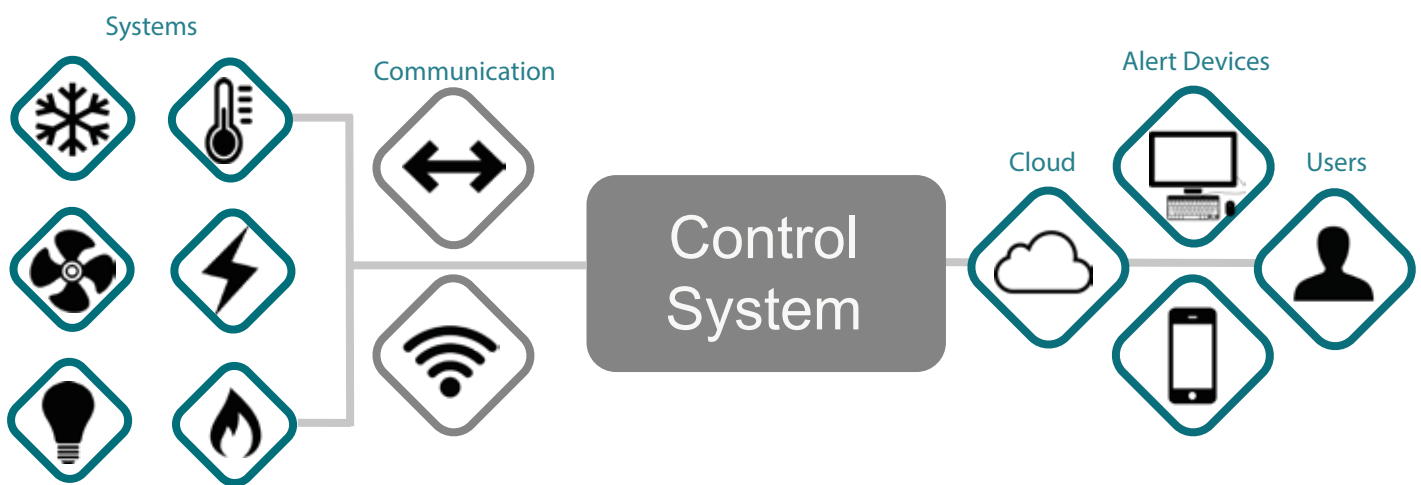


Control Systems

Future proof your temperature systems by implementing a holistic and responsive control monitoring system.

Perfect for interface with a variety of HVACR (heating, ventilation, air-conditioning and refrigeration) and BMS (Building Management System) devices.

Connect your control system to your desktop using the latest technology and cloud framework to help you easily manage critical appliances.



Less Downtime = Extra Efficiency!

Remote Access

No need to be in the refrigeration plant area to spot or diagnose a problem. Desktop access to the control system will provide an elegant and efficient solution.

Desktop Applications

The system communicates effectively with easy-to-use downloadable desktop software.

Energy Saving

Having a management system in place provides opportunities for energy conscious organisations to ensure that cost efficiencies are generated, monitored and maintained.



Monitoring Systems

Ayjay Pharma Control System Support

Cost effective -
Engineer site visits are not always necessary with the ability to alter parameters remotely.

Downloadable data-
Cloud/ local reporting daily, weekly, or monthly; as graphs or charts.



Outsource Control -
Let us take the pressure away from you and manage problems for you.

Offsite Management -
With agreed access we can remotely initiate temp control procedures.

Resolution of Problems or Failures -
Immediately identify problems for quick, effective resolution.

Preventative Maintenance -
Understand problems and failures to ensure first time fix.

Upgrades -
Take advantage of updating your system with an Ayjay Pharma control system.

Device Diagnostics -
Understand your systems better.

Monitoring of the Devices -
24/7 local/remote control and access.

Ayjay Pharma Front-end Device Features

Option to remotely monitor devices and control your systems at a touch of a button.



Lighting Design

Lighting design is important to any cold storage solution. Our systems are designed to introduce minimal heat gain, which in turn, reduces load on the refrigeration system.

Ayjay Pharma use innovative lighting products designed specifically for use in insulated chilled and frozen environments, with low energy, high performance output.

Mindful of each situation, Ayjay Pharma will assess the lighting requirement and install lighting solutions to purpose fit each environment.

We always design to achieve and deliver:

Efficiency

High output performance
Effective lighting design

Reliability

Top quality products
Innovative lighting systems and control methodology

Using specialist software, Ayjay Pharma will design your lighting scheme, outlining suitable luminaires and sensors for your project.

We will provide you with a design of how your bespoke lighting system will emit light in the allocated area including a 2D model image, helping you visualise the design and improvement before installation.

Electrical Systems

At Ayjay Pharma, we ensure a harmonised approach to all electrical, data and control systems. All elements outlined below will be designed, installed and certified to the highest standards.

Bespoke temp control system

- Control panels designed and built to comply with your URS.
- Site services and BMS integration

Lighting system

- All of our lighting systems are highly energy efficient with minimal heat displacement within the structure (room).
- We can design your lighting system to achieve the required Lux level (lighting level).
- Occupancy detection

Monitoring

- Product monitoring
- Room monitoring
- Ambient monitoring
- Data logging

Emergency protocols

- Personnel entrapment alarms
- Emergency lighting
- Dial-out systems

Door control

- Automatic door control with alarms
- Door interlock systems
- Interlock air-curtains
- Uninterrupted Power Supply (UPS) systems

Mains distribution systems

- Automatic changeover systems from multiple sources
- Sub mains supplies

FGas leak detection

- Leak detection control strategy for a full range of gasses.





Validation

Validation is an important element of quality assurance and is advised for storage of any medicines. The validation process maps and assures even temperature and air-distribution as per the design requirements.

Three types of tests that a validation consists of:

Installation Qualification (IQ) –

These tests validate whether the installation is meeting the requirements.

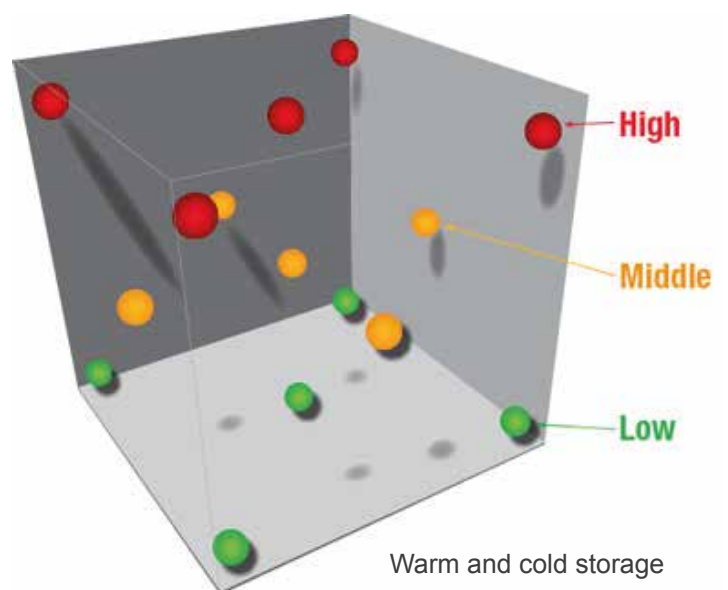
Operational Qualification Tests (OQ) –

These consist of a series of tests to ascertain that the cold room or freezer operates as specified.

Performance Qualification Tests (PQ) –

These consist of rigorous performance testing under practical conditions.

Ayjay Pharma advise you work with an independent 3rd party validation service to validate your new Ayjay Pharma system.



Warm and cold storage temperature map.

Consultancy

With over 100 combined years of technical and design expertise, Ayjay Pharma are able to provide expert advice and practical solutions to challenging engineering problems.

Our in depth understanding of heat reclaim and heat utilization enables us to offer cost effective packages to reduce carbon, save energy, and give a realistic return period on capital expenditure.

We invest our time into attending the Institute of Refrigeration (IoR) events and other industry seminars to ensure that we are always informed about current legislation, and just as importantly, we are also kept aware of proposed future legislation.

Whether our customers are looking to upgrade existing equipment to meet current legislation, reduce their carbon footprint, find a solution to an existing problem, or just ensure that new equipment will not fall foul of future legislation, Ayjay Pharma can help.

Other consultancy offerings:

Petrochemical
ATEX

Environmental Test Chambers/ Walk-in Incubation Rooms
FGas (Hydrocarbons)(Co2)
Heat Reclaim

Leak Detections

Installed leak detection systems will supply early warning alarms to FGas regulations.

Thermal Imaging

This specialist process uses equipment to detect thermal hot and cold spots, in order to highlight and avoid potential risk and critical failure.

After-care Plans

Oil Sampling

Condition monitoring of oil is vital within the refrigeration system to prolong efficient operation.

FGas Inspections

FGas inspections are a legal requirement and conducted by our expert team on an annual basis.

Lifetime After-care Plans

We understand it is crucial for pharmaceutical environments to maintain continuous cold storage performance to protect vital products.

The Ayjay Pharma After-care Plan is tailored for your needs.

Annual Re-calibration

An annual re-calibration of all critical control equipment is important for maintaining temperature logging.

Annual Electrical Maintenance Test

We carry out a visual inspection of all terminations annually and a 20% electrical test each year to ensure your compliance.

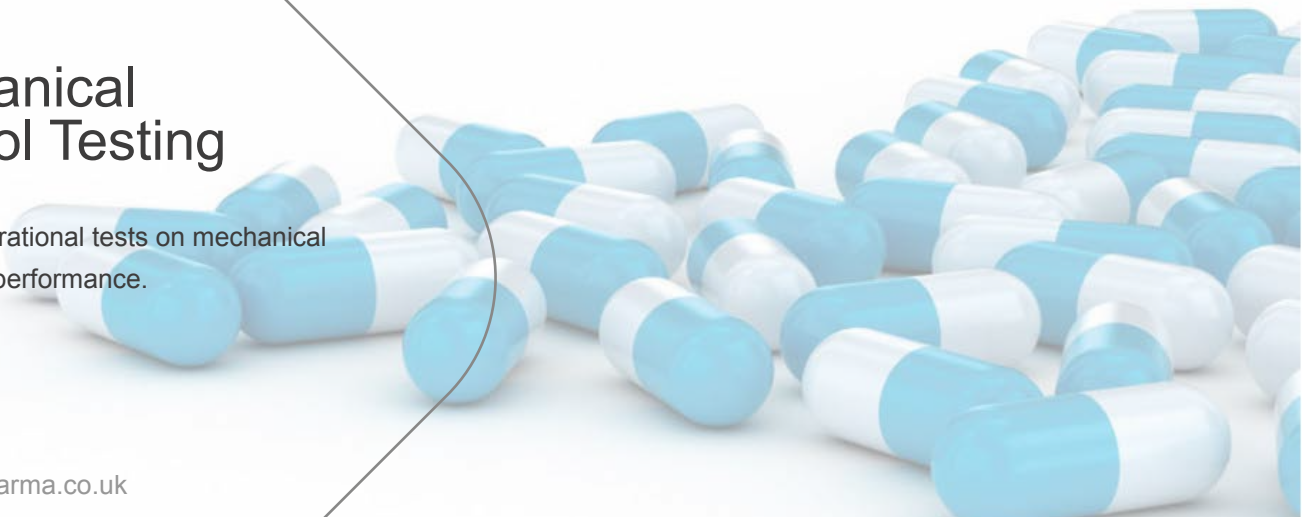
Bespoke After-care Support Plans

Ajay Pharma is committed to providing after-care support.

We will work alongside you and/or your BMS provider to deliver a tailored after-care service package, that will maintain optimal service levels.

Mechanical Control Testing

Regular operational tests on mechanical component performance.



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Ayjay Pharma is a trading name of Ayjay Group Ltd.
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