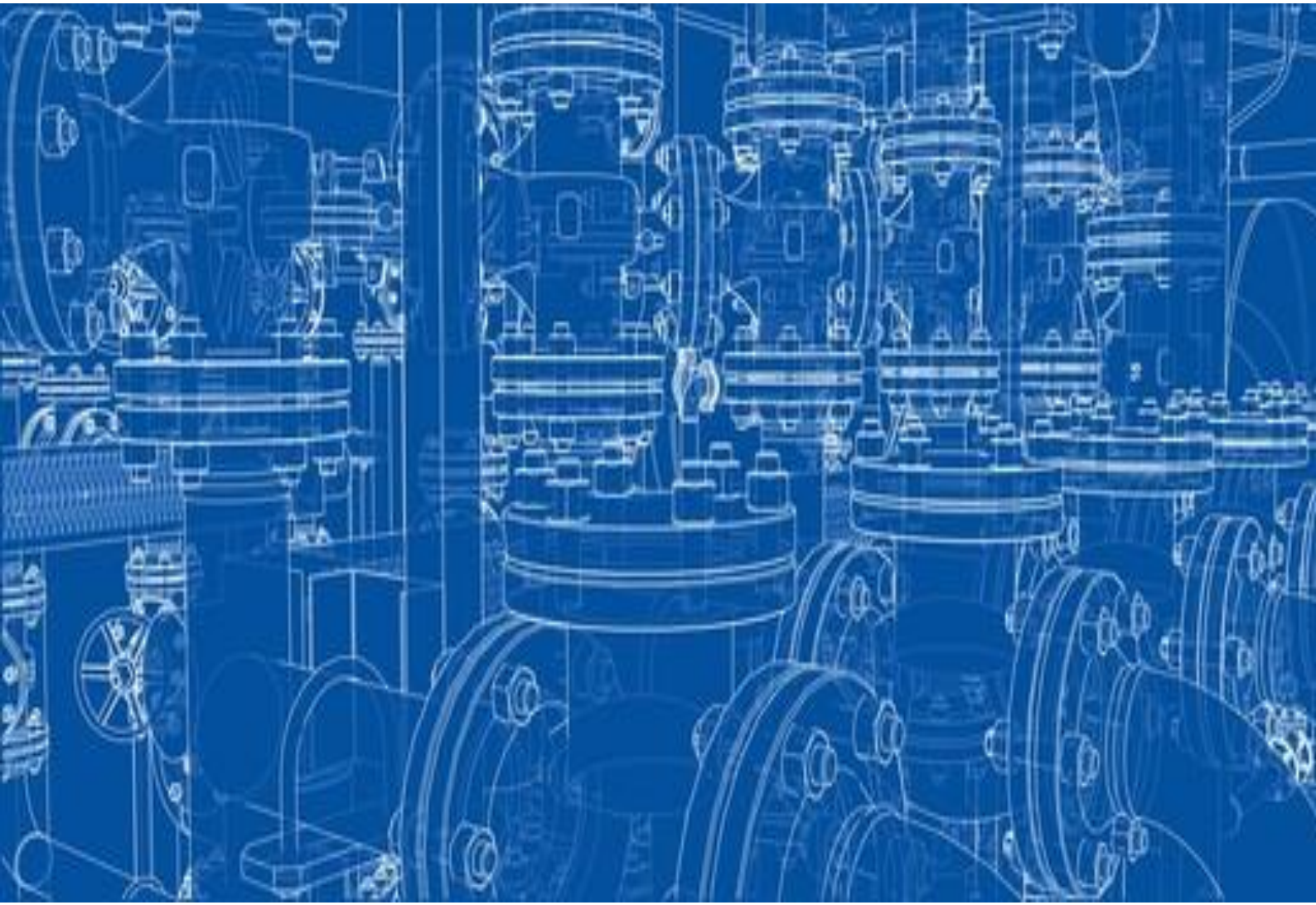
NHS Property Services

TECHNICAL SPECIFICATION (TS-20-AST)

NHSPS Asset Standardisation - Preferred Assets

January 2026 / Version 3.2

This document is a reference guide to the preferred manufacturers and models, or specific safety and performance criteria, that should be met when specifying key M&E or building assets for use in within the NHSPS Estate. This is a live document so please submit any feedback and suggestions to the Hard FM Expertise Team.



Version History

Version Number	Author	Date	Description of Change
0.1	Principal Technical Services Manager	01/03/2022	Initial document drafted.
1.1	Principal Technical Services Manager	09/09/2022	Update of BMS Section.
1.2	Principal Technical Services Manager	04/11/2022	Update of Calorifier and Gas Fired Water Heater sections.
1.3	Principal Technical Services Manager	02/12/2022	Addition of Electrical Wiring Accessories Section.
1.4	Principal Technical Services Manager	16/12/2022	Addition of 6.8 Valves Thermostatic Radiator Valves and update of Surge Protection Device Information.
1.6	Technical Standards Manager	01/02/2023	Document updated as per Document Version Control document.
2.2	Infrastructure Asset Manager	30/05/2023	Document renamed to meet IAM and Hard FM naming convention.
2.3	Infrastructure Asset Manager	01/03/2024	Addition of the following sections: Access Control Systems Air Conditioning and Air Source Heat Pumps Air Handling Units and Associated Terminal Units BMS and Associated Control Assets Calorifiers Centralised & Self-testing Emergency Lighting Systems Cold Water Storage Tanks Domestic Water Services Pipework Electrical Wiring Accessories Emergency Refuge Alarm Systems Energy Efficient Lighting & Equipment EV Charging Units Fire & Security Roller Shutters Fire Alarm Systems Fire Doorsets Fire Suppression Systems Gas Fired Boilers Gas Fired Water Heaters Generator Control Panels Generator Sets Goods & Passenger Lifts Ground Source Heat Pumps Intruder Alarm Systems LV Distribution Equipment Medical Gas Anaesthetic Gas Scavenging System Medical Gas Area Valve Service Units Medical Gas Vacuum Plant Medical Gases Manifolds (Including ESM's and ERM's) Passive Fire & Smoke Protection Systems Photovoltaic Systems Plate Heat Exchangers Pool Equipment & Systems

			Pumps Safety & Security Ironmongery Specialist Water Treatment Surge Protection Devices Valves - Level, Gate, Globe, Balancing, Differential Valves - Pressure Relief Valves and Temperature Pressure Relief Valves Valves - Thermostatic Mixing Valves or Taps (TMV and TMT) Valves - Thermostatic Radiator Valves (TRV)
3.0	Infrastructure Asset Manager	15/05/2024	Document updated as per Document Version Control document.
3.1	Infrastructure Asset Manager	01/01/2025	Further details added to most sections, NHSPS Standard Building Specification links embedded accordingly, NHSPS Energy Performance Specification links embedded accordingly. Addition of the following sections: Filtration Systems (Air, Water, Compressed Air)
3.2	Infrastructure Asset Manager	25/11/2025	Expansion of the Terminology section. Addition of the following sections: Automatic Pedestrian Doors Baby Change Units Building Insulation and Thermal Protection Edge and Fall Protection Oil Storage Tank Gauge and Low-Level Alarm Valves – Pressure Balancing Mixers Taps Window Restrictors

Review History

Version Number	Date	Reviewer
0.2	16/03/2022	Technical Standards Manager
1.5	31/01/2023	Technical Standards Manager
2.4	02/05/2023	Policy & Process Manager
3.0	01/04/2024	Policy & Process Manager

Approved for Release

Version Number	Date	Approver
1.0	24/03/2022	Head of Technical Services
2.0	01/02/2023	Head of Hard FM Expertise
3.0	18/07/2024	Head of Hard FM Expertise
3.1	06/02/2025	Head of Hard FM Expertise
3.2	23/01/2026	Head of Hard FM Expertise

Document Review

This document is a working document and therefore will be continually reviewed and updated based on the requirements of the organisation. It will also be periodically reviewed on an annual basis.

Contents

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2 Aim

This document is a reference guide to the preferred manufacturers and models, or where there is no specific desire to use certain makes or models, we have outlined the minimum standards or accreditation requirements of key Mechanical and Electrical Assets and their installation, for use within NHSPS properties. The NHSPS selection of preferred manufacturers and models is often completed following a multi-layered review, where value for money, reliability, efficiency, technical support and parts availability via NHS supply chains, are all evaluated and accounted for.

It is not a mandatory requirement to exclusively use the Assets identified within this document, as circumstances may dictate an alternative is more suitable or available, but variation from those Assets and systems outlined will need to be reviewed and agreed prior to use or installation.

3 Terminology

Term	Definition
AC	Air Conditioning
AHU	Air Handling Unit
BMS	Building Management System
BS & BS EN	British Standard, and British Standard European Norm
DCW & DCWS	Domestic Cold Water, and Domestic Cold Water Services
DHW & DHWS	Domestic Hot Water, and Domestic Hot Water Services
DX	Direct Expansion (basic type of Air Conditioning system)
EML	Emergency Light
ERM	Emergency Reserve Manifold
ESM	Emergency Standby Manifold
EV	Electric Vehicle
GSM	Global System for Mobile Communications
HBN	Health Building Note
HTM	Health Technical Memorandum
ISO	International Standards Organisation
LED	Light Emitting Diode
LTHW	Low Temperature Hot Water (<95°C)
MTHW	Medium Temperature Hot Water (90°C to 120°C)
NHSPS	NHS Property Services
PV	Photovoltaic
RCBO	Residual Current Breaker with Over-Current
RCD	Residual Current Breaker
SME	Subject Matter Expert
SPD	Surge Protection Device
TG	Technical Guidance (NHSPS specific)
TMT	Thermostatic Mixing Tap
TMV	Thermostatic Mixing Valve
TP	Technical Process (NHSPS specific)
TRV	Thermostatic Radiator Valve
VRV & VRF	Variable Refrigerant Volume, and Variable Refrigerant Flow
VSD	Variable Speed Drive

4 Related Documents

The following document is related to this technical subject:

TS-06-FIRE – Fire Alarm Systems – Fire Alarm Specification.

TS-06-FDOOR – Fire Doors Specification.

TG-03-Water – NHSPS Water Management Guidance.

TG-05-Elec – NHSPS Electrical Management Guidance.

TG-14–MGPS – NHSPS Medical Gases Pipeline Systems Guidance.

TG-16-F-Gas – NHSPS Fluorinated Gas Systems Guidance.

TG-21-Comb – NHSPS Combustion Guidance.

TG-22-Vent – NHSPS Ventilation Management Guidance.

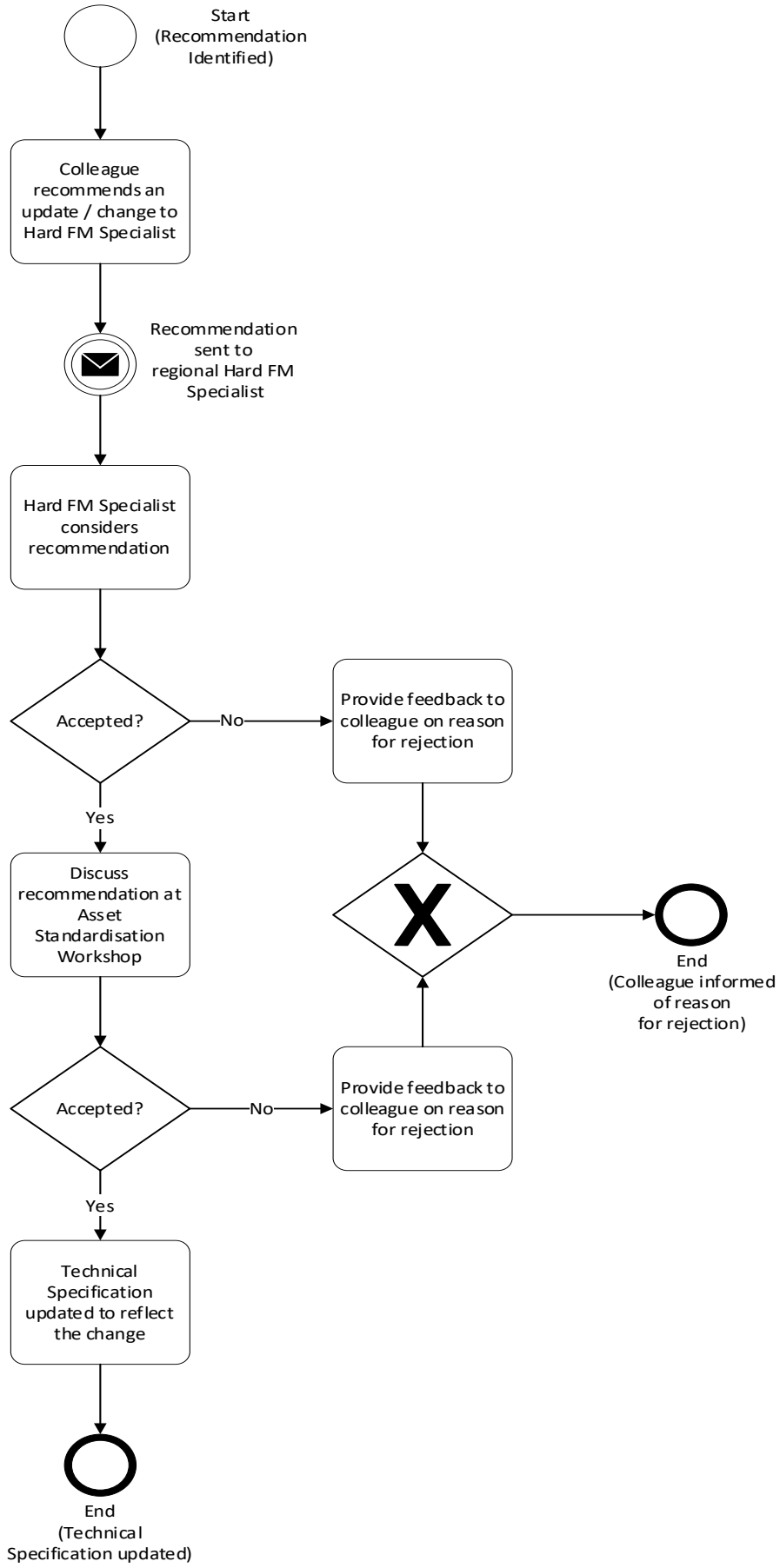
TG-23-Pools – NHSPS Hydrotherapy & Birthing Pools Guidance.

Energy & Environment – Performance Standards Specification.

NHSPS Standard Health Design Standards.

NHSPS Building Management System Strategy.

5 Recommendation Process



6 Asset Types

6.1 Access Control Systems

Should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes. They should be made by one of the following manufacturers, as these offer products and installations that have been proven as the most reliable, sound quality and value, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Honeywell	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.
Johnson Controls	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.
Paxton	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.

6.2 Air Conditioning and Air Source Heat Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market on pump technology innovation to increase refrigeration and heat extraction efficiencies, recyclability of components and parts, as well as improved environmental control.

Prior to installation planning and system selection, the installer or design consultant should assess the quality of the building fabric and thermal insulation rating values to ensure each is sufficient to provide the thermal efficiency for a heat pump to be effective. It is essential that any heat pump that also provides the primary heating medium for DHW systems, must be specified with a capability that achieves 70°C in all connected DHWS storage (filled to capacity), 55°C at all DHWS outlets and a minimum return temperature of 50°C. Installation and Asset data recording guidance is provided in TG-16-FGas - Fluorinated Gas Systems. This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Designers, project consultants, and installers must refer to the Heat Pump Specification database as published by the Energy Networks Association (link https://www.energynetworks.org/assets/images/Publications/2023/ena-heat-pump-database.xls?1711467723), for correct sizing, ratings, and type selection.

Preferred Manufacturer	Application	Rationale
Daikin	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient.
Mitsubishi	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Fujitsu	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Trane	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
McQuay (Daikin)	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy efficient. * Trusted.
Carrier	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.

6.3 Air Handling Units and Associated Terminal Units

Newly specified Air Handling Units (AHUs) should incorporate a form of heat recovery from the extracted air, to help boost efficiency and pre-tempering prior to the main heating coil. The most common types of heat recovery are: thermal wheel; plate heat exchanger; or run around circuit. All condensation moisture is to be collected via free-flowing constant fall trays, traps and drainage pipework that prevents any pooling, where u-bend vapour/odour traps are made of glass or acrylic to enable viewing of the colour or state of the condense water. All fan motors (supply & extract) should have a minimum efficiency rating of IE4, but IE5 would be preferred.

As outlined in NHSPS Technical Guidance TG-22-Vent - General and Specialist Ventilation, for general office and clinical consultation type spaces, a general AHU should supply and extract air at a rate to achieve a minimum of 6 air changes per hour, in each room or area the system serves.

For specialist ventilation AHUs and systems, the minimum performance criteria for flow rates, noise and air changes is set out in the current HTM 03-01 part A, where the areas the system serves dictating the respective performance parameters. Any variation to the current HTM AHU or system performance specifications will need recording as a derogation and agreeing with NHSPS and the system users, before acceptance or handover is completed.

These should be wholly made or assembled by one of the following manufacturers and chosen per application and space available, as these ensure products and components meet certain hygiene and healthcare standards and are proven as the most reliable, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
AHS	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Dalair	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Medexs	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.

6.4 Automatic Pedestrian Doors

All powered pedestrian doors installed since April 2013 should comply with the BS EN16005. BS EN16005 is a harmonised/designated standard. This standard identifies **EHSRs** (Essential Health & Safety Requirements) and safeguarding which will allow compliance with the Supply of Machinery Regulations 2008. BS EN16005 is not applicable to doors in use before 10/4/13 unless:

1. The system is upgraded via a significant change
2. There has been an incident which would suggest the system is dangerous

6.5 Baby Changing Units & Changing Places Adult Changing Tables

All baby changing units installed in healthcare settings should comply with BS EN 12221-1/-2:2008+A1:2013, which specifies safety requirements and test methods for changing units used by infants up to 15 kg. Design and spatial requirements should follow BS 6465-2:2017 (Sanitary Installations – Space Recommendations) and BS 8300-2:2018 (Design of an Accessible and Inclusive Built Environment), ensuring accessibility for all users, including parents with disabilities. NHS Health Building Note (HBN) 00-02: Sanitary Spaces provides further guidance that should be followed on layout and integration within clinical environments. These standards collectively address essential health and safety requirements, hygiene, and inclusivity, supporting compliance with the Equality Act 2010 and Building Regulations Part M. Baby changing units in use before these standards were adopted are not required to comply unless:

1. The unit undergoes a significant modification or upgrade
2. An incident occurs indicating the unit poses a safety risk

Protocol and Preferred Manufacturer	Application	Rationale
Magrini – Baby Changing Unit – Horizontal White	Preferred for used in all NHSPS Buildings unless unable to layout constraint	▪ Complies with BS EN 12221-1/-2:2008+A1:2013 ▪ National supplier – consistent ITM Coding and delivery costs ▪ Reliability ▪ Familiarity ▪ Healthcare hygiene standards. ▪ Industry recognised.
Magrini – Baby Changing Unit – Vertical White	Preferred for used in all NHSPS Buildings unless unable to layout constraint	▪ Complies with BS EN 12221-1/-2:2008+A1:2013 ▪ National supplier – consistent ITM Coding and delivery costs ▪ Reliability ▪ Familiarity ▪ Healthcare hygiene standards. ▪ Industry recognised.

All adult changing tables installed in healthcare or public settings should comply with BS 8300-2:2018, which sets out design requirements for accessible and inclusive environments, including minimum dimensions and safe working load (typically ≥ 200 kg). The table should be height-adjustable (manual or powered) and meet safety and hygiene standards outlined in BS EN 12182:2012 (assistive products for persons with disability – general requirements and test methods). Spatial planning should follow BS 6465-2:2017 for sanitary installations and the Changing Places Consortium specifications, ensuring adequate room size (minimum 3 m × 4 m), ceiling hoist provision, and space for carers. NHS Health Building Note (HBN) 00-02: Sanitary Spaces provides further guidance on integration within clinical environments. These standards collectively address health and safety, infection control, and inclusivity, supporting compliance with the Equality Act 2010 and Building Regulations Part M. Adult changing tables in use before these standards were adopted are not required to comply unless:

1. The unit undergoes significant modification or upgrade
2. An incident occurs indicating the unit poses a safety risk

6.6 BMS and Associated Control Assets

Any installed BMS controllers and outstations should be BACnet compatible and open protocol, as well as incorporated into the NHSPS networked BMS control system and connected to the monitoring bureau. The setup and key operating parameters for any installed BMS systems are documented in the Technical Guidance document NHS Property Services BMS Strategy.

BMS control output devices should be selected from the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Protocol and Preferred Manufacturer	Application	Rationale
BACnet open Protocol	Preferred for use in all NHSPS Buildings. Required to have remote connectivity and be BACnet enabled to connect to IQ Vision – system does not have to be Trend	* Wide range of partners. * Cost competitiveness * Backwards compatibility * Industry recognised. * Parts availability. * Functionality. * Reliability. * Open protocol. * Remote connectivity.
Belimo Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Siemens Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Schneider Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.

6.7 Building Insulation & Thermal Protection (incl. windows)

When undertaking refurbishment or replacement works on our buildings fabric and structure, you should refer to the guidance as set out in the NHSPS Schedule of Standards and Minimum Design Requirements: 241025 NHS PS Standard Health Design Standards V17 Including Appendicies - Final

Should be made to meet the minimum performance specification as set out below, to ensure our buildings are energy efficient by design and build, as well as contributing towards the NHS England target of being net carbon zero by 2040, and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Minimum Performance	Application	Rationale
Minimum energy performance for: Double glazed windows = 1.6W/m²K Triple glazed windows = 1.0W/m²K Doors = 1.4W/m²K	Window and glazed door units	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Wall insulation = 1.6W/m²K	Stud and structural wall insulation	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Pitched roof installations = 0.18W/m²K Flat roof installations = 0.18W/m²K	Pitched and Flat roof installations	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Floor installations = 0.25W/m²K	Building floor installations	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.

6.8 Calorifiers

Calorifiers which are principally heated by Steam, LTHW or MTHW are the preferred means of providing and storing Domestic Hot Water (DHW) in NHS premises including NHS Property Services buildings, as these support NHS England in achieving net zero carbon by 2040.

Specified Calorifiers Must:
Be HTM Compliant, e.g. Lining that is resistant to bacteriological growth, inspection hatches, suitably sized drain off located as close to the bottom of the vessel as possible, convex base to cylinder.
Have renewable fuel source capability, i.e. be dual-coil, utilising both an electrically heated coil as main source of heat with a secondary source such as Solar Thermal, electric immersion, etc.
Any installed immersion heaters should be supplied via an appropriately-rated double-pole switch (for example, 20 A for a 3kW immersion heater) within easy reach of the heater that conforms to BS EN 60669-2-4, and a flexible cable outlet (integral with or separate to the switch). Immersion heaters fitted to storage vessels with a capacity in excess of 15 litres should be installed on their own final circuit.
Capable of pasteurisation to at least >60°C for one hour and maintain HTM Compliant temperatures when operating on electric immersion only, as per section 11.2 in the NHSPS Water Management Guidance TG-03 (TG-03-Water).

NOTE: The local water quality must be verified to ensure the proposed replacement or new asset is suitable. Additional water treatment, conditioning and or maintenance regimes may be required. Verification must be via a reliable and recognised source - e.g. the local water supplier, the drinking water inspectorate, or United Utilities online postcode checker: Water quality | United Utilities

Preferred Manufacturer	Application	Rationale
McDonald	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Energy Efficient.
Ormandy Rycroft	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Hamworthy Powerstock	Preferred for use in all NHSPS Buildings that do not require to be HTM compliant, unless unable due to infrastructure constraints. NB. Does not have a drain off at the lowest point on the vessel	* Available in Glass lined option * Ease of maintenance. * Availability of spares. * Favourable lifecycle cost. * Energy Efficient.

6.9 Centralised & Self-testing Emergency Lighting Systems

New Centralised & Self-testing EML systems and panels should be specified as being open protocol system architecture where possible, as to allow easy access by our suppliers to programming for systems additions and changes. Self-testing systems should include compatibility with Dali and MyMesh lighting control platforms and architecture.

Minimum Specification and Accreditation	Application	Rationale
System design and install to comply with LG 2 BS 5266-1. Standalone fully automatic self-testing emergency lighting in accordance with ATS type PERC classification, as classified by BS EN 62034. Luminaires and signs incorporate self-contained emergency lighting operation with built-in standalone self-testing in accordance with ATS type S, as classified by BS EN 62034. Luminaires and signs automatically carry out testing in excess of the requirements of BS EN 1838/BS 5266 Part 7. To include a Nominal Test Cycle – To ensure that adjacent units do not test simultaneously	Centralised & Self-testing Emergency Lighting Systems	* Industry recognised. * Availability. * Functionality. * Reliability. * NHS supply chain support.

6.10 Cold Water Storage Tanks

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the, manufacturer, NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Braithwaites	Cold Water Storage Tanks	* Comply with UK water supply regulations 1999. * WRAS Approved. * Industry recognised. * Functionality. * Tanks are certified to ISO 9001, 14001 and 45001 for quality, environment and safety.
Balmoral	Cold Water Storage Tanks	* Comply with UK water supply regulations 1999. * WRAS Approved. * Industry recognised. * Functionality. * Tanks are certified to ISO 9001, 14001 and 45001 for quality, environment and safety.

6.11 Domestic Water Services Pipework

The use of EPDM (Ethylene Propylene Diene Monomer) flexible braided rubber hoses shall be prohibited in the installation of new domestic water facilities including WRAS approved items. This applies to flexible hoses from mixed domestic water supplies as well as to separate hot and cold-water systems and feeds, as detailed in section 9.2 of the NHSPS Water Management Guidance TG-03 (TG-03-Water).

All final Domestic Water Services outlet connection pipework in NHSPS buildings shall be made in solid copper pipework.

Minimum Specification and Accreditation	Application	Rationale
The manufacturers pipework and fittings must be WRAS approved.	Preferred for use in all NHSPS Buildings.	* Water Regulations compliant and water hygiene tested.
Larger DHWS & DCWS system pipework and fittings must be WRAS and/or current EN BS standard compliant.	Preferred for use in all NHSPS Buildings.	* Water Regulations compliant and water hygiene tested. * HSG 274 Part 2 compliant.

6.12 Edge and Fall Protection

Edge Protection systems are required to protect people from falling from a range of heights including rooftops, and at ground level where a fall from a raised footpath or down a slope may cause injury. It is important that the correct edge protection standard is chosen for the right purpose and protection, whilst conforming to the following standards. To ensure it remains in the condition required to protect people from falling on the day of its installation, Edge Protection Systems should be inspected against the relevant updated standard it was installed to on an annual basis.

Minimum Specification and Accreditation	Application	Rationale
BS 13700	Counterbalanced Edge Protection	* Complies Building Regulations 2010. * Industry recognised. * Tested to resist minimum load requirements as specified in BS EN 1991-1-1 (UK Annex). * Insurance recommended. * Functionality.
BS 6180	Barriers in and about buildings (temp or permanent)	* Complies Building Regulations 2010. * Industry recognised. * Tested to resist minimum load requirements as specified in BS EN 1991-1-1 (UK Annex). * Insurance recommended. * Functionality.
BS 14122	Permanent access to machinery	* Complies Building Regulations 2010. * Industry recognised. * Tested to resist minimum load requirements as specified in BS EN 1991-1-1 (UK Annex). * Insurance recommended. * Functionality.
BS 13374	Temporary Edge Protection Systems	* Complies Building Regulations 2010. * Industry recognised. * Tested to resist minimum load requirements as specified in BS EN 1991-1-1 (UK Annex). * Insurance recommended. * Functionality.

6.13 Electrical Wiring Accessories

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, most robust in design, and being well supported via both the NHSPS and wider NHS supply chains and most Electrical wholesalers.

Small power and lighting Distribution Boards and Power Distribution Units are to be designed and made so that they remain IP2X rated with the door open and first cover removed. This is to aid maintenance inspections and singular MCB and RCBO replacement, without the need to isolate the entire supply and board, thus minimising disruption to our customers.

Components	Preferred Manufacturer	Application	Rationale
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	MK	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	Schneider	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	Scolmore Click Mode	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.14 Emergency Refuge Alarm Systems

New Emergency Refuge Alarm systems and panels should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes.

They should also be made and installed by a manufacturer or installer who is accredited to the bodies outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
3rd Party Accredited i.e. Fire Industry Association (FIA), British Approvals for Fire Equipment (BAFE), Loss Prevention Certification Board (LPCB), Association for Specialist Fire Protection (ASFP)	Emergency Refuge Alarm Systems	* Industry recognised. * Availability. * Functionality. * Reliability. * Open Protocol.

6.15 Energy Efficient Lighting & Electrical Equipment

The NHSPS preferred supplier for supplying LED Lighting and installations is currently Energy Efficient Savings Group (EESG), with the Energy & Environment Team being key contract holders.

Other LED Lighting accessories are available from Electrical wholesalers and have various differing specifications, but the NHSPS minimum standard for all new lighting installations is 100 Lumens per Watt of power used in the circuit, and the installation must comply with LG2 Lighting Guide 2 for Healthcare Premises. Motion sensors should be specified for lighting control in high traffic or low use areas, such as corridors, WC's, storerooms/cupboards.

The following manufacturer and installer are believed to offer products that have been proven as the most reliable, offer best value, and are well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer / Supplier	Application	Rationale
EESG	LED Lighting replacements. Emergency Lighting control and self-test systems.	* National NHSPS Supplier.

6.16 EV Charging Units

The NHSPS preferred supplier for supplying EV Charging Units and installations is currently Flowbird Smart City UK Ltd, with the Energy & Environment Team being key contract holders.

Other EV Charging Units are available from Electrical wholesalers, however, to enable a consistent product, operation and maintenance system across the estate any new EV charge points being installed should be provided through Flowbird. This will mean there is a consistent method of access, tariffs and ability to manage use data, as well as consistent maintenance and fault recording.

Refer to the EV Charging Strategy for more details *(being developed and awaiting sign off/approval*), but all EV chargers are to be supplied via an Open PEN (or O-PEN) protected Distribution Board or within the EV charging unit, as well as having a Type 1 or Type 2 Surge Protector with associated arrester cabling in-line on the electrical supply.

Preferred Manufacturer	Application	Rationale
Flowbird Smart City UK	Public and NHSPS EV Charging Units supply and install	* National Supplier.

6.17 Fire & Security Roller Shutters

They should also be made by a manufacturer whose product lines meet or exceed the standards outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
BS EN: 16034: 2014 BS EN: 13241-1: 2003 LPS 1175 Security Protection	Fire Roller Shutters	* Industry recognised. * Insurance recommended. * Functionality. * Reliability. * Tested for fire protection.

6.18 Fire Alarm Systems

New Fire Alarm systems and panels should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes. Where our TS-06-FIRE Fire Alarm System specification states, should be connected to a GSM ready alarm monitoring and signalling device, which is connected to the NHSPS alarm monitoring centre, in a manner that meets BS 5839:1, as set out in section 18 of the TS-06-FIRE specification.

The NHSPS standard for fire alarm protection levels in our premises is outlined in the table below, an extract of section 8.2 as set out in section 18 of the TS-06-FIRE specification. Other key system selection criteria and installation standards apply, these are set out in sections 8 – 18 of TS-06-FIRE Fire Alarm Specification document (TS-06-FIRE - Fire Alarm Systems - Fire Alarm Specification).

8.2 Fire Alarm System Requirements by Property Type

		Tiering Definition (Appendix 1)					
		Tier 1	Tier 2	Tier 3	Vacant Property	Warehouse/ Storage	Temporary Property
Alarm Categorisation	L1	X					
	L2		X	X	X	X	X
	L3		X	X	X	X	
	L4						
	L5						
	P1					X	
	P2					X	
	M						
ARC		X	RA	RA	X	X	
Printer		RA	RA	RA			RA

Notes
RA – Requirement to be determined by a Risk Assessment

6.19 Fire Doorsets

They should also be made and installed by a manufacturer whose products are accredited with meeting or exceeding the standards outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

NHSPS Technical Specification TS-08-FDOOR Fire Doors applies (TS-08-FDOOR - Fire Doors Specification).

Minimum Specification and Accreditation	Application	Rationale
BS: 8214: 2016 Timber Based Fire Door Assemblies - Code of Practice	Fire Doorset replacement, repair and installation	Door manufacturer's name and reference to the relevant Primary Test Evidence or Global Fire Resistance Assessment (GFRA)/ 3rd Party Accredited Manufacturers whose products have successfully been through fire testing to BS: 476 and/ or EN: 1634 and have a 3rd Party Accredited UKAS Report. Primary Test Evidence derives from a Fire Test by a named manufacturer at a UKAS Accredited Laboratory Where no specific Primary Test Evidence is available- reference may be made to a Global Fire Resistance Assessment (GFRA) aka A Product Assessment whereby analysis is made of a series of test results and a professional judgement made by a qualified Fire Consultant. Assessments are statements of expert opinion based on observed test performance.

6.20 Fire Suppression Systems

Fire Suppression systems installed within the NHSPS estate should use one of the following fire suppressant mediums, as they are more environmentally safe and safe for building users in the event of discharge: CO2, FM200, Inergen, Foam.

They should also be made and installed by a manufacturer or installer who is accredited to the bodies outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
3rd Party Accredited i.e. Fire Industry Association (FIA), British Approvals for Fire Equipment (BAFE), Loss Prevention Certification Board (LPCB), Association for Specialist Fire Protection (ASFP)	Gaseous, liquid, foam and chemical Fire Suppression Systems	* Industry recognised. * Insurance recommended. * Functionality. * Reliability. * Availability. * Tested for fire protection.

6.21 Gas Fired Boilers

Replacement of single or multiple gas boiler Assets on a like-for-like basis should now be considered as the last option, favouring other emerging greener heating technologies, or for very specific operational reasons. If a gas boiler or boilers are specified for a new build property, refurbishment project, or reactive boiler Asset replacement, then they must meet the following criteria and be made by one of the following manufacturers in the table below, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains:

- Gas boilers must be hydrogen (H^2) ready
- They must have a maximum NOx emissions rating of 27mg/kWh to meet BREEAM requirements, with a stretch NOx emissions rating of 24mg/kWh

This is a link to the Performance Standards Specification for checking minimum and stretch performance targets for Assets and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Minimum Required Efficiency	Application	Rationale
Remeha	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Widely used within NHSPS with positive feedback. * Favourable lifecycle cost. * Energy Efficient.
Hoval	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Strebel	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Vaillant	96%	Preferred for domestic sized installation of less than 35kW	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Worcester Bosch	96%	Preferred for domestic sized installation of less than 35 kW	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.

6.22 Gas Fired Water Heaters

To support NHS England in achieving net zero carbon by 2040, NHSPS's standard approach when replacing Direct Gas Fired Water Heating Plant is to move to an appropriately sized Dual Coiled Calorifier with Electrical Immersion Heater(s) – Section 6.6 of the NHSPS Water Management Guidance TG-03 (TG-03-Water). Any Calorifier specified must be able to pasteurise when required and maintain HTM Compliant temperatures when operating on electric immersion only.

Any installed immersion heaters should be supplied via an appropriately-rated double-pole switch (for example, 20 A for a 3kW immersion heater) within easy reach of the heater that conforms to BS EN 60669-2-4, and a flexible cable outlet (integral with or separate to the switch). Immersion heaters fitted to storage vessels with a capacity in excess of 15 litres should be installed on their own final circuit. Confirmation should also be provided by the designer / Installer that the building electrical system and the DNO incoming supply has sufficient electrical capacity to support the increase in electrical load when moving from Gas fired to Duel Coiled with Electrical Immersions.

This is a link to the Performance Standards Specification for checking minimum and stretch performance targets for Assets and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

NOTE: The local water quality must be verified to ensure the proposed replacement or new asset is suitable. Additional water treatment, conditioning and or maintenance regimes may be required. Verification must be via a reliable and recognised source - e.g. the local water supplier, the drinking water inspectorate, or United Utilities online postcode checker: Water quality | United Utilities

Preferred Manufacturer	Application	Rationale
A O Smith	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Dual coil option. * Low thermal loss. * High Heat recovery.
Andrews	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Dual coil option. * Low thermal loss. * High Heat recovery.
Rinnai wall hung	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. These can be susceptible to hard water	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Low thermal loss. * High Heat recovery.

6.23 Generator Control Panels

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Deep Sea Electronics	Generator Control Panels	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Compatible with Trend.

6.24 Generator Sets

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market in generator engine and alternator technology innovation to increase generation efficiencies, recyclability of components and parts, as well as investing in alternate prime mover and permanent magnet alternator technologies.

Preferred Manufacturer	Application	Rationale
Dorman	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient.
SDMO	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient.
Perkins	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient. * Packaged Generator Sets.
Cummins	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient. * All sized power output Generator Sets.

6.25 Goods & Passenger Lifts

The design and manufacture of lifts for use in healthcare premises should comply with Section 2 of HTM 08-02.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable and offer the best value, most readily maintained by various suppliers, and well supported via both the NHSPS and wider NHS supply chains.

Manufacturer	Application	Rationale
Jacksons, Schindler and KONE	Machine Roomless Lift (MRL) - Goods and Passenger Lifts	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Up to 5 or 6 floors.
Schindler	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Otis	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
KONE	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Stannah	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Schindler	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.
Otis	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.
Thyssen-Krupp	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.

6.26 Ground Source Heat Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

Prior to installation planning and system selection, the installer or design consultant should assess the quality of the building fabric and thermal insulation rating values to ensure each is sufficient to provide the thermal efficiency for a heat pump to be effective. It is essential that any heat pump that also provides the primary heating medium for DHW systems, must be specified with a capability that achieves 70°C in all connected DHWS storage (filled to capacity), 55°C at all DHWS outlets and a minimum return temperature of 50°C. This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Designers, project consultants, and installers must refer to the Heat Pump Specification database as published by the Energy Networks Association (link https://www.energynetworks.org/assets/images/Publications/2023/ena-heat-pump-database.xls?1711467723), for correct sizing, ratings, and type selection.

Preferred Manufacturer	Application	Rationale
Daikin	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Stiebel Eltron	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Kensa	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Nibe	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Valliant	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.

6.27 Intruder Alarm Systems

Should be designed to provide the required level of protection outlined below for the relevant property types. The alarm should be made to the following standards where it includes battery backup, open protocol architecture and remote alarm monitoring.

Must have 12 hours battery backup (grades 1-3, grade 4 = 24 hours), open protocol architecture, Dual-com remote dial ready (remote alarm monitoring BS EN 50518), (transmission system EN 50136).

Minimum Specification and Accreditation	Application	Rationale
BS EN 50131 specifies four grades of Intruder Alarm Systems – grades 1 to 4. The grades are based on the level of security and protection required for different types of properties, with Grade 1 being the least sophisticated and Grade 4 being the most advanced.	Grade 1: Suitable for low-risk properties such as small homes or apartments in low-risk areas. Grade 2: Suitable for medium-risk properties such as small retail shops or small businesses. Grade 3: Suitable for high-risk properties such as large retail stores, warehouses or factories. Grade 4: Suitable for very high-risk properties such as banks, museums or government buildings.	* Minimum standard detection, activation and operation. * Standard for installation and for input/output devices.

6.28 LV Distribution Equipment

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Components	Preferred Manufacturer	Application	Rationale
Distribution board -	Schneider, ABB, Eaton, Hager, Crabtree	Preferred for use in all NHSPS Buildings.	* Enhanced IP ratings. * Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
MCCB – withdrawable type	Schneider, ABB, Eaton, Hager, Crabtree	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
ACB – withdrawable type	Schneider, ABB, Eaton, Hager, Crabtree	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.29 Medical Gas Anaesthetic Gas Scavenging System

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.
GCE Mediline	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.
Algas	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.

6.30 Medical Gas Area Valve Service Units

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.
GCE Mediline	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.
Algas	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.

6.31 Medical Gas Vacuum Plant

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Algas	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.
Beacon Medaes	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.
Millenium Medical Products	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.

6.32 Medical Gases Manifolds (Including ESM's and ERM's)

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.
Precision UK	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.
Millenium Medical Products	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.

6.33 Oil Storage Tank Gauge and Low-Level Alarm

Oil storage tank monitoring systems at NHSPS properties must be designed to deliver the required level of protection as outlined below. Each system shall comply with the relevant standards and incorporate the outlined features. All gauges specified must demonstrate proven reliability, ease of maintenance, and strong support through NHS supply chains. Additionally, gauges must be fully compatible with BMS platforms to enable seamless remote monitoring and data reporting.

Minimum Specification and Accreditation	Application	Rationale
HYTEK C2020 Tank Gauge	Voltage 110V/230V. Amber and Red low-level alarm indicators for proactive fuel management and emergency response. High Level / Low Level Local alarm with acknowledge circuit Options TGE.C2020A with high/low level alarm, can also have a bund probe or water bottom sensor option. Choose between bund probe (TGE.BP) or water bottom sensor (TGE.WS). (Water bottom sensor requires 15mm of water to activate)	* Can connect to a BMS. * Gives continuous readout in litres. * Wide range of partners. * Cost competitiveness. * Backwards compatibility. * Industry recognised. * Accuracy +/- 1% of tank capacity. * Functionality. * Remote connectivity.

6.34 Passive Fire & Smoke Protection Systems

Fire batting and stopping should be completed using one of the following materials, or passive fire & smoke protection systems and damper packs, should be made to the required standards and installed by a supplier who is accredited as outlined below. Any deviation from this should not be considered as acceptable unless stringent assessment is undertaken by a competent fire officer or engineer prior to any work being started.

Preferred Manufacturer	Application	Rationale
Fire Stopping materials must be supplied by a third-party accredited manufacturer and fitted by a third party accredited installer ASFP Red Book Exova Warrington Hilti Firetherm Dampers must conform to BS EN: 15650: 2010 and tested to BS EN: 1366- 2 and classified to BS EN: 13501- 3 Smoke Control Dampers must conform to BS EN: 13501- 4: 2016 ASFP Grey Book Vol1 Swegon Advanced Air UK Lloyd Industries Advanced Air	Fire Stopping Materials, and Fire or Smoke Dampers	The products must have been successfully tested for the specific end use application and this must be proven by a UKAS Accredited Report that refers to specific Fire Test Evidence

6.35 Photovoltaic Systems

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

The NHSPS standard outlines a minimum efficiency rating for all newly designed, specified, or installed PV systems, of 22% to ensure compliance with BREEAM. All new installations must be compatible with, or include a monitoring system and platform, such as SolarEdge, to enable real time data transmission and transfer, and allow each panel to operate independently, so failure of one does not take the whole system down.

Utilising a Solar PV Monitoring Software/Platform allows for remote monitoring of the PV installation. The system should provide reporting on electricity generation, periods of export, performance of each panel in the array and issues with inverter performance. The system should also be capable of generating alarms and alerts relating to performance issues with the panels and/or the related electrical system. Particularly important is the ability to detect and react to faults, high temperatures, surges and arcs, and shut down the system accordingly. The inclusion of a Firefighter gateway is also required to allow for shut down when needed.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Risen Energy	Solar PV Panels	* Industry recognised. * Availability. * Reliability. * Energy efficient.
SolarEdge	Solar PV Monitoring Platform	* Industry recognised * Allows live data transfer * Safety requirements included

6.36 Plate Heat Exchangers

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Alfa Laval	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost * High Heat recovery. * Energy Efficient.
Stockvis	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * High Heat recovery. * Energy Efficient.

6.37 Pool Equipment & Systems

NHSPS Technical Guidance TG-32-Pools - Hydrotherapy and Birthing Pools outlines key controls, testing and commissioning requirements for birthing and hydrotherapy pool installations within in the NHSPS property portfolio.

Should be designed and made by one of the following manufacturers and installers, as these offer products and installations that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
PWTAG	Swimming pool treatment advisory group	* Sets out guidance. * PWTAG Standards. * Recognised leader in pool specifications.
Cimspa	Swimming pool maintenance specification	* Good technical support. * Healthcare specialist. * Recognised leader in pool specifications.

6.38 Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market on pump technology innovation to reduce reliance on single use components and improve the recyclability of their products as well as improve both power consumption and pumping efficiency.

Electric pump drive motors must have a minimum efficiency rating of IE4, although IE5 rated motors are preferred, and the application of Variable Speed Drives (VSD) should be considered mandatory where the application and system allows.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Grundfos	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
DAB	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Armstrong	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
ITT Hydrovar	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.

6.39 Safety & Security Ironmongery

Should be made and installed to the applicable standards as outlined below, as these products meet the reliability and hygiene standards for high traffic environments within the healthcare estate, whilst being well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
Ironmongery for Fire Door Sets Must conform with the Manufacturers Instructions. These will show the Ironmongery that has been successfully tested with the particular door sets in various fire tests and is evidenced in UKAS Third Party Accredited Reports. BS EN 1154/ 54 Door Closers HTM 59: Ironmongery. HTM Building Component Series Lever handles, lock cases, locks, cylinders, roses, push plates, pull handles and thumb turns etc. shall be provided where necessary. Ironmongery to be 25mm diameter brushed stainless steel. Ironmongery generally shall be from approved healthcare ironmongery approved suppliers and of quality solid stainless steel. Ironmongery shall be selected to provide the required colour contrast to the proposed door finish / colour as required under the Building Regulations.	Fire Doors	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Compatible with Trend.

6.40 Specialist Water Treatment

NHSPS Water Management Guidance TG-03 (TG-03-Water) outlines the key requirements and criteria for installing, testing and commissioning of specialist water systems.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. The outlined manufacturers and products are known to comply with, and support healthcare standard water cleanliness, as outlined in NHSPS Water management Guidance TG-03.

Preferred Manufacturer	Application	Rationale
VEXO - X-Pot	Preferred for use in all NHSPS Buildings	* Magnetic filtration. * Combined dosing function. * Dirt and air separation with cartridge and bag filtration. * Other manufactures with these characteristics will be acceptable.
Pureox 3500	Chlorine Dioxide treatment in NHSPS buildings	* WRAS Approved. * Disinfectant effect is independent of pH. * Does not react with ammonium. * Other manufactures with these characteristics will be acceptable.
T-Safe	UV filtration systems in NHSPS buildings.	* Suitable for clinical and non- clinical applications. * 24 hour emergency delivery. * Compatible with all healthcare centric taps. * ISO accreditations: 22196, 10993, 9001 and 13485. * Other manufactures with these characteristics will be acceptable.
Kalguard	Water softening systems in NHSPS buildings.	* Does not affect the potability of the water. * No water is wasted during cycles. * Dose not need to be sighted by a drain. * Other manufactures with these characteristics will be acceptable.

6.41 Surge Protection Devices

Surge Protective Devices (SPD) are used to protect the electrical installation, which consists of the consumer unit, wiring and accessories, from electrical power surges known as transient over voltages. They are also used to protect sensitive electronic equipment connected to the installation, fire detection systems and emergency lighting. Equipment with sensitive electronic circuitry can be vulnerable to damage by transient over voltages.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

Components	Preferred Manufacturer	Application	Rationale
Surge Protection Device (SPD) – Must have visual fault indicator	DEHN (DEHN have modular plug-in arresters), Schneider, ABB, Hager	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.42 Valves - Level, Gate, Globe, Balancing, Differential

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Hattersley	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Crane	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Boss	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Jet	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Peglar	Thermostatic balancing valves to control return temperatures in DHWS Systems	* Industry recognised component. * Availability. * Functionality.
Crane	Thermostatic balancing valves to control return temperatures in DHWS Systems	* Industry recognised component. * Availability. * Functionality.

6.43 Valves - Pressure Relief Valves and Temperature Pressure Relief Valves

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Nabic	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.
Kunkle Bailey	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.
Jet	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.

6.44 Valves – Pressure Balancing Mixer Taps

Balanced Mixer Taps are becoming a common alternative to Thermostatic Mixing Valves (TMV's) and Thermostatic Mixing Taps (TMT's) in locations where the scalding risk and HTM compliance are offset by the need for reduced maintenance requirements. Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Delabie	Preferred for use in all NHSPS Buildings	* WRAS and BuildCert approved. * 30-year warranty. * Supports thermal pasteurisation without CWS isolation.

6.45 Valves – Thermostatic Mixing Valves or Taps (TMV and TMT)

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. The outlined manufacturers and products are known to comply with, and support healthcare standard water cleanliness, as outlined in NHSPS Water management Guidance TG-03.

Any TMV or TMT in a healthcare environment must be Type 3 and should not be fitted with or supplied via flexible connection hoses for DCWS and DHWS. All efforts should be made to replace any known or identified flexible connection hoses with solid copper connection pipework at the earliest possible time.

Preferred Manufacturer	Application	Rationale
Armitage Shanks/Markwik 21 or Contour 21	Preferred for use in all NHSPS Buildings	* HTM 04-01 compliant. * WRAS approved for use on Potable water systems. * Rebuildable units with replaceable cartridges.
Delabie/Securitherm	Preferred for use in all NHSPS Buildings	* HTM 04-01 compliant. * WRAS approved for use on Potable water systems. * 30-year warranty.
Inta/HTM64	Preferred for use in all NHSPS Buildings	* HTM64 and HTM 04-01 compliant. * WRAS approved for use on Potable water systems. * Certified under the NSF TMV3 schemes.
Bristan/ H64DMT2	Preferred for use in all NHSPS Buildings	* HTM64 and HTM 04-01 compliant. * WRAS and BuildCert approved. * NHS D08 compliant. * Certified under the NSF TMV3 schemes.
Pegler/PEG402	Preferred for use in all NHSPS Buildings	* BuildCert Scheme Certified. * WRAS approved for use on Potable water systems. * Complies with NHS Model Engineering Specification DO8.
Crane/D1080	Preferred for use in all NHSPS Buildings	* WRAS Approved. * Certified under the NSF TMV2 & TMV3 schemes. * Integral strainers and check valves. * Tamper-proof adjustment.
Boss/BOSSMIX™ TMV2/3	Preferred for use in all NHSPS Buildings	* WRAS and BuildCert approved. * NHS D08 compliant. * Suitable to meet Part G of Building Regulations.

6.46 Valves - Thermostatic Radiator Valves (TRV)

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Danfoss	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality. * Wide range of commercial applications
Hertz	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality. * Wide range of commercial applications.
Honeywell	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Serviceable without isolation. * Industry recognised component. * Availability. * Functionality. * Wide range of commercial applications.

6.47 Window Restrictors

Window restrictors should be manufactured and installed in accordance with the applicable standards outlined below, as these products are critical for patient safety and fall prevention within healthcare environments. Compliance with BS EN 13126-5 and NHS guidance such as HTM and HBN ensures restrictors are robust, tamper-resistant, and meet the performance requirements for high-risk settings, while being supported through NHS Property Services and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
Window restrictors must conform to BS EN 13126-5:2011+A1:2014. Robust and tamper resistant – guidance - HTM 55/HTM 05-02, HBN 00-10 Part D Installation/ maintenance to follow - BS 8213-4:2016	Preferred for use in all NHSPS Buildings	*In healthcare settings where patients may exert deliberate force, restrictors must be robust and tamper-resistant. *HTM55/ HTM05-02 Compliant *HBN 00-10 Part D Compliant * Industry recognised component. * Availability. * Functionality.