Guidance Notes on Adoption of MiMEP in DCS

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機電工程署
EMSD

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Executive summary

This Guidance Notes provide comprehensive and practical recommendations for effective implementation of Multi-trade Integrated Mechanical, Electrical, and Plumbing (MiMEP) in District Cooling System (DCS). The scope covers the DCS plant room installations and substations.

Early planning, proactive engagement of the consultants and builder's works designer and the standardized design are essential to realizing the full benefits of MiMEP. These benefits include enhanced design flexibility and significant improved productivity, reduced construction time, lower safety risk, better quality assurance and coverall cost-effectiveness.

Standardization approach has been adopted to the cooling capacities, sizing of water pipe, substation layout, and key building services modules. The key focus areas are modular construction techniques, interface requirements, factory and site quality control, transportation logistics, and safety considerations.

The appendices show standardized drawings, notes and summary table to facilitate implementation.

1.0 General

1.1 Background and Purpose

1.1.1 The Electrical and Mechanical Services Department (EMSD) actively promotes the use of MiMEP for DCS projects. By shifting a substantial portion of fabrication and assembly work to a controlled factory environment, these high productivity construction methods markedly reduce on-site fabrication work, accelerate project delivery, enhance quality, lower costs and improve site safety.

1.1.2 Successful pilot DCS projects delivered by the EMSD have showcased these advantages. EMSD aims to extend the use of MiMEP to the DCS implemented by the private or non-governmental developments.

1.1.3 This Guidance Notes are intended for developers, consultants, designers, contractors, and DCS consumers operated by both government and non-governmental entities. They offer practical strategies for integrating MiMEP throughout the project lifecycle – from feasibility and planning, through design, fabrication, delivery, installation, testing and commissioning, to long-term asset management.

1.1.4 Project teams are strongly recommended to verify the actual site conditions at an early stage, adopts the standardized modules wherever practicable, and make adjustments only when justified by site-specific constraints.

1.2 Compliance Framework

1.2.1 MiMEP should comply with relevant statutory requirements and guidelines, including but not limited to the below:

(a) Statutory requirements as specified in the General Specifications for building services installations;

(b) FSD Circular Letter No. 3/2019 Guidance Notes on Submission, Approval and Acceptance Inspection of Fire Service Installations and Equipment in Modular Integrated Construction Building Projects issued by the Fire Services Department (FSD) or the latest version;

(c) Circular Letter No. 2/2019 Procedures for Applications for Water Supply in New Building Projects adopting “Modular Integrated Construction” Method issued by the Water Supplies Department (WSD) or the latest version;

(d) Practice Note for Authorized Persons, Registered Structure Engineers and Registered Geotechnical Engineers (PNAP) ADV-36 on Modular Integrated Construction issued by the Buildings Department (BD);

(e) Guidance Note on Fixed Electrical Installations with Modular Integrated Construction Method issued by the Electrical and Mechanical Services Department;

(f) Guidance Note on Household Electrical Products with Modular Integrated Construction Method issued by the Electrical and Mechanical Services Department (EMSD);

(g) Guidance Note on Gas Supply Installations issued by the Electrical and Mechanical Services Department (EMSD);

(h) Guidance Note on Supply of Energy Label Prescribed Products at MiC Projects issued by the Electrical and Mechanical Services Department (EMSD);

(i) Guidelines on the Statutory Requirements for Modular Integrated Construction Projects issued by the Construction Industry Council (CIC);

(j) Road Traffic (Traffic Control) Regulations;

(k) Guidelines on Application of Construction Noise Permit for using Modular Integrated Construction (MiC) Method" by the Environmental Protection Department (EPD);

(l) Code of Practice for the Structural Use of Steel issued by Buildings Department (BD); and

(m) Any other statutory requirements and guidelines in relating to the MiC construction method.

1.2.2 All production and assembly factory of MiMEP modules, including DCS substations, and equipment, should follow a certified quality system approved such as ISO9001.

1.2.3 Quality Control and Supervision Plan should be prepared to detail all steps for fabrication, assembly, and installation of DCS components, inspection schedules, acceptance criteria, and roles for quality control.

1.2.4 Digital Works Supervision System (DWSS) should be used for digital record-keeping and audit trails.

1.2.5 All preparatory work, for example structural supports and builder's work, should be completed before module delivery.

1.3 Design Standardization

1.3.1 Early coordination among consultants, designers, contractors and suppliers is required to ensure the design to be holistic with due consideration on the feasibility in installation, and accessibility for future operation and maintenance.

1.3.2 Design standardization with modular approaches is adopted to enhance consistency and efficiency across the design of building services system in DCS main plants, and DCS substations.

1.3.3 For DCS plants, due to the range of cooling systems required by site-specific technologies and needs, it is recommended to standardize the design of building services systems such as AHU modules, pump modules, and piping modules. These

building service components are typically factory-assembled into modular units, featuring plug-and-play mechanical and electrical connections.

1.3.4 For the DCS substation, there are **nine (9)** typical room dimension covering wide range of cooling demand capacities, with **eight (8)** typical capacity of heat exchanger and consisting of **seven (7) types** of MiMEP modules, named M1 to M7. Each available with sub-types to accommodate **six (6)** typical pipe size.

1.3.5 Each features uniform interfaces and similar layouts arrangement to streamline plantroom planning, module fabrication and installation. The DCS project team is encouraged to implement the recommended module arrangements wherever feasible, making adjustments as necessary to meet fabrication and installation requirements. These standardized MiMEP modules are designed to facilitate rapid and efficient site installation by utilizing a plug-and-play approach.

1.3.6 The detailed table in **Appendix C – SC/G/002B** (Drawing Title: General Arrangement of Substation Room Type 1 to Type 9) show the combination of modules for various types of DCS substations.

<table>
<tr><th>Substation Room Type:</th><th>Consumer Cooling Load (kW)</th><th colspan="3">Substation Lead-in Module Type</th><th>PHE Connection Module Type</th><th colspan="2">Header Module Type</th><th>Power Supply and Control Module Type</th></tr>
<tr><td rowspan="2">1</td><td>x ≤ 1200</td><td colspan="3" rowspan="3">M1-A</td><td rowspan="3">M4-A</td><td rowspan="3">M5-A</td><td rowspan="3">M6-A</td><td rowspan="11">M7</td></tr>
<tr><td>1200 < x ≤1200</td></tr>
<tr><td>2</td><td>1800 < x ≤3000</td></tr>
<tr><td rowspan="2">3</td><td>3000 < x ≤4200</td><td colspan="2" rowspan="4">M1-B</td><td rowspan="4">M2-B</td><td rowspan="4">M4-B</td><td rowspan="4">M5-B</td><td rowspan="4">M6-B</td></tr>
<tr><td>4200 < x ≤5400</td></tr>
<tr><td rowspan="2">4</td><td>5400 < x ≤7200</td></tr>
<tr><td>7200 < x ≤9600</td></tr>
<tr><td>5</td><td>9600 < x ≤12000</td><td rowspan="5">M1-C</td><td rowspan="5">M2-C</td><td rowspan="5">M3-C</td><td rowspan="5">M4-C</td><td rowspan="5">M5-C</td><td rowspan="5">M6-C</td></tr>
<tr><td>6</td><td>12000 < x ≤18000</td></tr>
<tr><td>7</td><td>18000 < x ≤24000</td></tr>
<tr><td>8</td><td>24000 < x ≤30000</td></tr>
<tr><td>9</td><td>30000 < x ≤36000</td></tr>
</table>

Table 1.1: MIMEP module table for standardized DCS Substations

1.4 BIM Requirements

1.4.1 Building Information Modelling (BIM) should be applied from the outset of the project to leverage its benefits, such as improved coordination, enhanced visualization, clash detection, and streamlined collaboration among stakeholders.

1.4.2 BIM can effectively support the modular design for MiMEP components.

1.4.3 For the design stage, Level of Development (LOD) 300 is generally sufficient to capture the necessary detail for design development and coordination. For specific LOD requirements, it is advised to comply with the relevant BIM manual issued by EMSD and the Construction Industry Council (CIC).

1.4.4 Adopting 4D planning (the integration of time-related scheduling with Building Information Modelling, or BIM) is also recommended for optimizing site logistics. By linking construction schedules to BIM models, the project teams can visualize module deliveries path, installation sequence, and identify potential bottlenecks early, ensuring smoother and safer installation.

1.4.5 Prior to module delivery and installation, 3D scanning technology, including Light Detection and Ranging (LiDAR) scanning, can be utilized to record the details of the builder's work for clash analysis. This allows any required module adjustments to be carried out in factory before delivery.

1.5 BIM-AM and Open BIM for Asset Management

1.5.1 EMSD adopts BIM-Asset Management (BIM-AM) throughout DCS projects to ensure accurate asset data and reliable as-built records for future maintenance. For non-EMSD projects, BIM-AM could be used as a reference when selecting asset management systems.

1.5.2 Applying Open BIM standards, such as the IFC format, is essential for promoting interoperability between different software platforms and stakeholders. This approach enables seamless integration of asset information.

1.5.3 For enhanced digital asset management, each MiMEP module should be equipped with a unique QR code or RFID tag. These identifiers can be linked directly to relevant documents, test reports, and operation and maintenance manuals, enabling real-time tracking and easy retrieval of asset information throughout the lifecycle of the project.

1.5.4 EMSD in echoing Construction Industry Council, this Guidance Notes have developed BIM objects for the DCS main plant and substations. These objects can be downloaded from the CIC website's – BIM Objects Library.

(https://www.bim.cic.hk/en/resources/bim_objects_list)

1.6 Logistic & Transportation

1.6.1 The delivery route should be planned in advance of module shipping, with any potential obstacles such as low bridges, tight turns, or weight restrictions identified.

1.6.2 For the delivery, storage, and protection of MiMEP modules from the factory to the site, it is essential to obtain the necessary permits. Early coordination with relevant authorities is recommended to ensure that the modules arrive safely and are ready for installation.

1.6.3 The on-site floor slab should be constructed to meet required flatness and alignment tolerances to facilitate module manoeuvring. Upon fixing the module in its designed position, appropriate equipment such as laser levels or similar devices, should be used to ensure accurate positioning of pipes and related components of the module.

1.6.4 Delivery schedules should follow a Just-in-Time (JIT) approach to reduce on-site storage, with contingency storage areas arranged as needed.

1.6.5 Complete records of all permits, including those for wide loads and fire-rated approvals, should be properly maintained.

1.6.6 The utilisation of RFID or QR codes could also facilitate the tracking and updating of the modules' location in real time.

1.7 Essential Builder' s Works at design and construction stages

1.7.1 Structural interfaces should be prepared to allow tolerances prior to module delivery. Supporting structures, embedment, and anchor points should be correctly positioned, properly levelled, and braced as required.

1.7.2 Both the floor slabs and ceiling slabs in plant rooms and along delivery path should be designed and checked to ensure they can support the necessary loads from permanent equipment as well as temporary loads during installation.

1.7.3 The project team should coordinate and provide suitable embedment, anchors, or eye bolts ahead of time to support the hanging or transport of heavy equipment.

1.7.4 Temporary works are required to manage additional loads during installation, safeguard completed areas, and prevent interference with module installation.

1.7.5 A plinth-less substation design may be proposed to facilitate equipment delivery, provided that the necessary structural support requirements are fully addressed. The project team shall ensure that the floor loading capacity is adequate for the equipment frame point loads in accordance with the general substation provisions.

1.7.6 Temporary framing materials used for delivery or installation may be reused, provided the project team verifies their structural adequacy and safety before reuse, and submits supporting documentation for acceptance.

1.7.7 Delivery route and builder's work should refer to the **Appendix C – SC/G/003B** (Drawing Title: General Arrangement of Substation Builder Works) for reference.

1.8 Testing and Commissioning (T&C) for DCS Systems with MiMEP

1.8.1 A comprehensive T&C plan that integrates Quality Assurance and Quality Control (QAQC) measures should be developed for all modular components, including but not limited to Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT).

1.8.2 Off-site inspection may be conducted to validate the core functionalities, workmanship, and connectivity of the designed modules.

1.8.3 The project team should also ensure the T&C plan are comply with relevant practices of statutory authority, and project specifications.

1.8.4 Off-site T&C should be conducted as far as practicable to reduce on-site commissioning time and ensue system reliability before installation.

2.0 Part 1: DCS Main Plant (MiMEP)

2.1 Standardization of MiMEP Components within the DCS Main Plant

2.1.1 A significantly higher degree of variability and engineering complexity are inherently involved in the design of DCS Main Plants. Each main plant may be tailored to its unique cooling load profile, spatial constraints, plant room footprint, equipment arrangement, and interfacing with surrounding building structures and utilities. The DCS main plant may hardly follow a typical or repeatable layout, as its design is accommodated varying combinations of chillers, pumps, cooling towers, electrical installations, seawater intake and outfall systems (where applicable), together with project-specific operational redundancy requirements.

2.1.2 Notwithstanding the inherent variability of DCS main plant design, it remains essential to embed principles of standardized planning from the earliest stages of project development. Designers are encouraged to rationalize equipment selection by minimizing the number of distinct capacity models for major components such as chillers, pump sets, and cooling towers. Where feasible, these items should be arranged in repeatable patterns for equipment layout, enabling unified pipe connection orientations and service connection modules that align with standardized MiMEP interfaces. Furthermore, regular routes for main services runs should be adopted to minimize irregular bending angles, thereby facilitating modular connections and simplifying off-site fabrication. Such proactive planning enhances the suitability of the plant for modular construction without compromising its ability to meet project-specific operational or spatial requirements.

2.1.3 Based on the above principles, the following subsections set out the typical MiMEP components identified as suitable for standardization within DCS main plants. Standardizing these components ultimately supports greater consistency, quality, and efficiency across the design and delivery process, as modularization can be consistently applied across different plant configurations to enhance constructability, improve quality, and reduce on-site installation effort, while retaining the flexibility required to meet individual operational and spatial needs.

2.2 MiMEP Module Design

2.2.1 **DCS Pipework**

2.2.1.1 The modular design approach is commonly adopted for DCS pipework to facilitate efficient on-site installation. To maximize the benefits of MiMEP, it is also recommended that the project team to group different types of DCS pipework—such as chilled water pipes, condensing water pipes, balancing pipes for cooling towers, chemical dosing pipes, and make-up water pipes—together. This enables the design of a common support frame, streamlining both fabrication and installation.

2.2.1.2 Subject to site and logistical constraints, pre-fabricated module should be maximized to the fullest extent possible to minimize onsite installation.

2.2.1.3 Typical arrangements of common pipework module are illustrated in **Appendix B – from MP/M/001 to MP/M/004** for reference.



Fig. 2.1 DCS Pipework

2.2.2 MiMEP Pump Skid

2.2.2.1 MiMEP pump skid is a modular, prefabricated pumping station designed for rapid installation. It should include pipework, pumps, instrumentation, control panels, and all necessary valving equipment.

2.2.2.2 All pumps, pipework, valves, sensors, and electrical controls are mounted, aligned, and pre-tested in a controlled environment before delivery to site.

2.2.2.3 The skid should be delivered to site as a complete unit, requiring only minimal connections on-site.



Fig. 2.2 Pump Skid

2.2.3 MiMEP PAU and AHU Units

2.2.3.1 The Air-handling Unit (AHU) and Pre-treated Air-handling Unit (PAU) plant should be constructed from sectional modules that are assembled on site to form a complete installation. The framework of each AHU/PAU section should be interconnected using soft rubber gasket to achieve airtight joints while facilitating off-site assembly.

2.2.3.2 The AHU/PAU control system should be pre-assembled and tested at off-site factory to ensure proper wiring connection and installation. Each section should be equipped with heavy duty plug-in terminal/ connector, to connect signal and power cables, with prefabricated trunking to facilitate on-site connections.

2.2.4 MiMEP Corridor Modules

2.2.4.1 MiMEP corridor modules are prefabricated sections that contain a variety of horizontal run building services components. They are manufactured off-site in a factory and then transported to the construction site for easy connection, which minimizes on-site work, improves efficiency, and reduces construction time.

2.2.4.2 A typical design of MiMEP corridor module is illustrated on drawings in **Appendix B – from MP/M/005 to MP/M/006**. Suitable maintenance access and space should be allowed for the services.

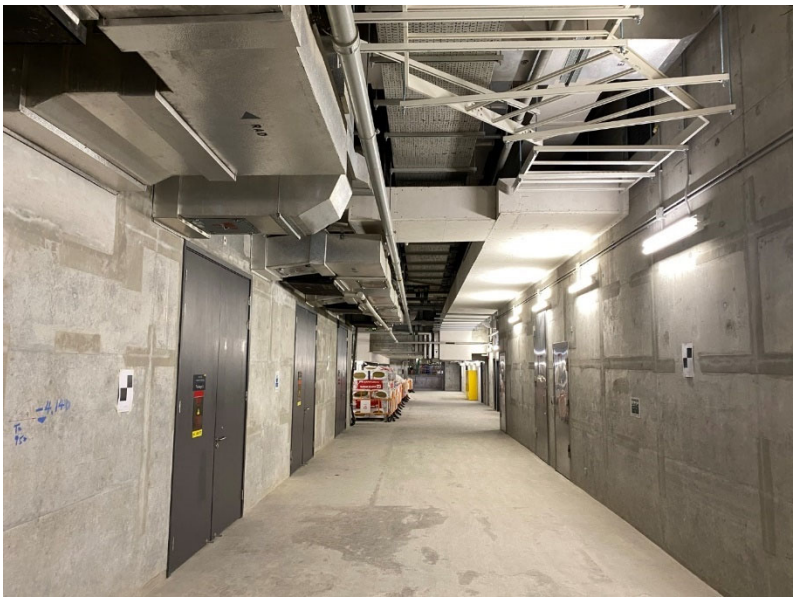


Fig. 2.3 Building Services installed at Corridor

2.2.5 Other MiMEP Applications in DCS Main Plants

2.2.5.1 The following systems represent valuable opportunities for extending MiMEP implementation subject to the consideration of DCS project team.

System	Modular Components
Electrical Systems	• Pre-assembled switch rooms with busbar trunking, e.g. factory-built with plug-and-play busbars and pre-tested wiring. • Pre-wired motor control centers, e.g. standard modules with color-coded cables for quick installation.

	• Modular cable tray assemblies with integrated supports, e.g. snap-together sections with built-in supports for fast, tool-free assembly.  Fig. 2.4 Electrical system at DCS Substation
Chemical Treatment	• Skid-mounted dosing systems with calibrated pumps, e.g. factory-built with preinstalled pumps, plug-and-play connections. • Pre-piped pH adjustment modules, e.g. pre-assembled piping with quick-connect fittings. • Plug-and-play filter assemblies, e.g. snap-in filter cartridges, standardized mounting frames.  Fig. 2.5 Automatic Chemical Dosing Unit for Chiller Water System
DCS Control & Automation	• Factory-programmed PLC panels, e.g. ready-to-use with pre-loaded programmes, standard connectors for easy wiring.

	• Pre-calibrated instrumentation clusters, e.g. pre-set sensors with plug-in cables, factory calibrated. • Pre-tested control nodes, e.g. tested modules with snap-in mounting.  Fig. 2.6 DCS control and automation system at DCS Substation
Acoustic enclosures	• Acoustic enclosure panels, e.g. interlocking panel system with gasket seals.
Fire Services Equipment	• Pre-charged fire pump skids, e.g. pre-wired control panels. • Prefabricated sprinkler manifolds, e.g. quick-connect fittings. • Modular Hose Reel Cabinet, e.g. pre-assembled frames. • Integrated valve stations, e.g. pre-piped alarm/check valve sets.
Sensor and Instrumentation system	• Pre-configured sensor arrays e.g. plug-and-play sensor pods. • Flow metering stations with test certificates, e.g. pre-calibrated meter assemblies. • Wireless monitoring nodes, e.g. tool-less enclosure clamps.

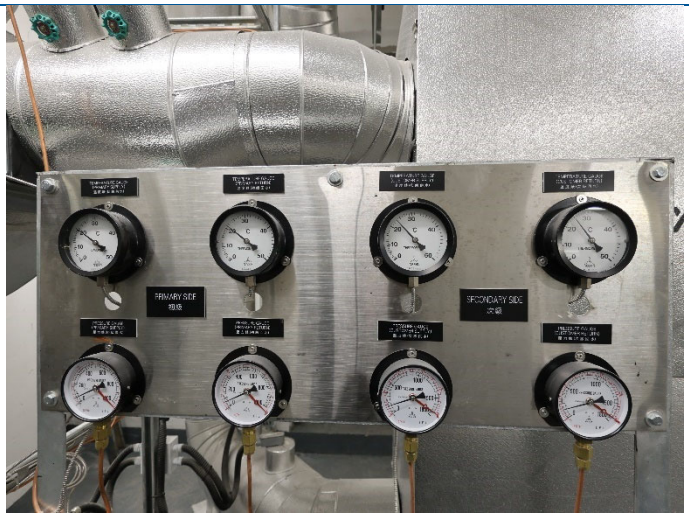
	 Fig. 2.7 Temperature / Pressure Guage Station

Table 2.2: Other MiMEP Applications in DCS Main Plants

2.3 Successful Cases of MiMEP Adoption in the Existing DCS Main Plant

EMSD successfully applied MiMEP in the construction of the Kai Tak Development (KTD) DCS Plant No. 3, demonstrating substantial gains in programme efficiency, workmanship quality and site safety. The project involved extensive off-site prefabrication of major chilled-water pipework up to 1.4 m diameter, enabling the contractor to install the prefabricated sections rapidly once supports were in place. This approach reduced the installation period by approximately 2–5 months, equivalent to a 30–70% time saving, while also ensuring more consistent fabrication quality.





Fig. 2.8 Major construction work of KTD DCS Plant No. 3



Fig. 2.9 Fabrication, delivery and fixing of pipework modules

MiMEP modules were also adopted, combining pipework, cable containment and supports into coordinated modular assemblies manufactured in a factory environment. With QR-coded identification and simplified connection interfaces, the installation effort on site was reduced by about 40%, while site congestion and trade-to-trade conflicts were significantly minimized.



Fig. 2.10 Fabrication, delivery and fixing of multi-trade modules

In addition, major electrical & mechanical (E&M) equipment such as pump skids and AHU modules were fully assembled and tested off-site before delivery. This arrangement reduced defects, accelerated commissioning and ensured more reliable equipment performance upon installation. For the seawater intake, the 15-metre-tall Travelling Band Screens (TBS) were pre-assembled and tested off-site as well. Their final installation took only half a day, compared with the usual two-week on-site process, markedly improving safety and shortening critical-path activities.



Fig. 2.11 Integrated AHU and pump set modules

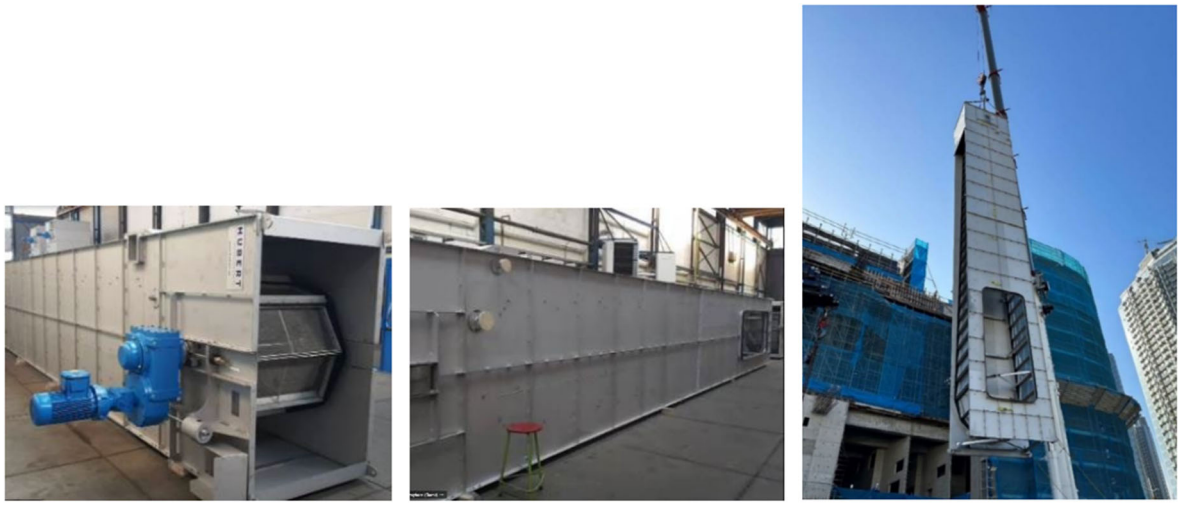


Figure 2.12 Off-site assembled TBS and installation works on site

Overall, the KTD Plant No. 3 experience demonstrates that MiMEP significantly enhances efficiency, safety, quality and labour productivity, providing a strong reference for wider MiMEP adoption in future DCS projects.

3.0 Part 2: DCS Substation (MiMEP)

3.1 Standardization of DCS Substation

3.1.1 There are 9 types of typical substation room dimension covering 12 types of cooling capacities for substations, designed to facilitate modular construction.

Type of cooling capacities	Substation Room Type:	Consumer Cooling Load (kW)	Standardized PHE Capacity (kW)	Appendix Drawing
1	1	x ≤ 1200	600	SC/L/001-1
2		1200 < x ≤ 1800	900	SC/L/001-1
3	2	1800 < x ≤ 3000	1500	SC/L/003-1
4	3	3000 < x ≤ 4200	2100	SC/L/005-1
5		4200 < x ≤ 5400	2700	SC/L/005-1
6	4	5400 < x ≤ 7200	3600	SC/L/007-1
7		7200 < x ≤ 9600	4800	SC/L/007-1
8	5	9600 < x ≤ 12000	6000	SC/L/008-1
9	6	12000 < x ≤ 18000	6000	SC/L/009-1
10	7	18000 < x ≤ 24000	6000	SC/L/010-1
11	8	24000 < x ≤ 30000	6000	SC/L/011-1
12	9	30000 < x ≤ 36000	6000	SC/L/012-1

Table 3.1: Drawings List for 12 types of standardized cooling capacities DCS Substations

3.1.2 Typical layout and general arrangement for the DCS substations is provided in **Appendix C – from SC/L/001-1B to SC/L/009-4B** for design reference.



Fig 3.1 Heat Exchanger in DCS Substation



Fig 3.2 Overall Arrangement of DCS Substation

3.2 MiMEP Module Design

3.2.1 MiMEP modules in DCS substations are designed for easy transport and quick assembly, with standardized dimensions, mounting methods, and weight specifications. Detailed module drawings are provided in the **Appendix C – from SC/M/001AB to SC/M/007AB**.

3.2.2 Parts of components are recommended to be installed on-site. This allows flexibility for final adjustments during assembly, especially for alignment with external interfaces. On-site installations include **Lead-In Riser Pipework, Heat Exchanger, Connection Pipework and Consumer Side Pipework**. These works should refer to the detailed drawings in **Appendix C**.

3.3 Frame Design for MiMEP Modules

3.3.1 The frame design for MiMEP modules includes three parts for optimal performance during fabrication, transportation and operation:

A. **Module Frame**: The primary module frame should be precisely designed, preventing excessive framing from obstructing maintenance access to the services.

B. **Demountable Frame for Delivery**: A temporary structure with protective bumpers, tie-down points, and the ability to be disassembled and reassembled while meeting transport need.

C. **In-Situ Mounting Support**: Adjustable sole plates for positioning, vibration isolation with neoprene pads, and temporary bracing for installation.

3.3.2 Typical design of module frames is provided in **Appendix C** for reference. The project team should modify the frame design to suit its fabrication and delivery needs. Adopting proprietary products is also recommended given the products comply with the structure design requirements.

4.0 Not Used

5.0 Conclusion and Way Forward

5.1.1 The successful deployment of MiMEP hinges on rigorous on standardized modules through assembling the DCS equipment in the factory for onward installation on construction site. Apart from being an innovative construction method, MiMEP is also one of the essential engineering strategies for DCS projects of which can streamline work procedures, help alleviate labour shortages in the construction industry, reduce the impact on the installation process due to weather conditions and site constraints, and further improve construction site safety and project quality.

5.1.2 The successful and seamless delivery of a DCS project using MiMEP relies heavily on thorough upfront planning and early coordination among architectural, structural, E&M, and other disciplines during the design phase, as well as advance planning of transportation routes and on-site delivery logistics, coupled with stringent quality control at the manufacturing factory. Only through such systematic and well-considered approaches can the full advantages of MiMEP be realized, thereby driving DCS construction toward greater efficiency and higher performance.

APPENDIX A

Drawing List

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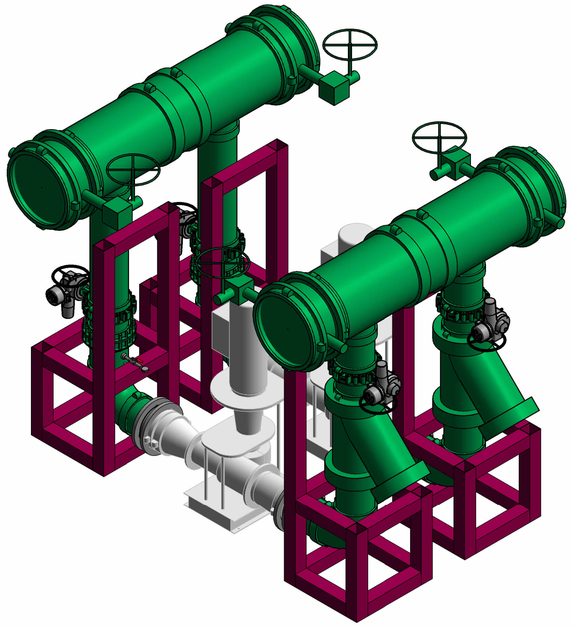
Drawing List

DCS MAIN PLANT				
Appendix	**Drawing No.**	Revision	**Drawing Title**	**Scale**
B	MP/M/001	-	GENERAL ARRANGEMENT OF MAIN PLANT PREFABRICATED CONDENSING WATER PUMP MODULES	A1 1:40
	MP/M/002	-	GENERAL ARRANGEMENT OF MAIN PLANT PREFABRICATED CHILLED WATER PUMP MODULES	A1 1:40
	MP/M/003	-	GENERAL ARRANGEMENT OF MAIN PLANT PREFABRICATED CHILLED WATER AND CONDENSING WATER HEADER PIPE	A1 1:40
	MP/M/004	-	GENERAL ARRANGEMENT OF MAIN PLANT PREFABRICATED COOLING TOWER HEADER PIPE	A1 1:25
	MP/M/005	-	GENERAL ARRANGEMENT OF MAIN PLANT MIMEP CORRIDOR MODULES (TYPE 1)	A1 1:25
	MP/M/006	-	GENERAL ARRANGEMENT OF MAIN PLANT MIMEP CORRIDOR MODULES (TYPE 2)	A1 1:25

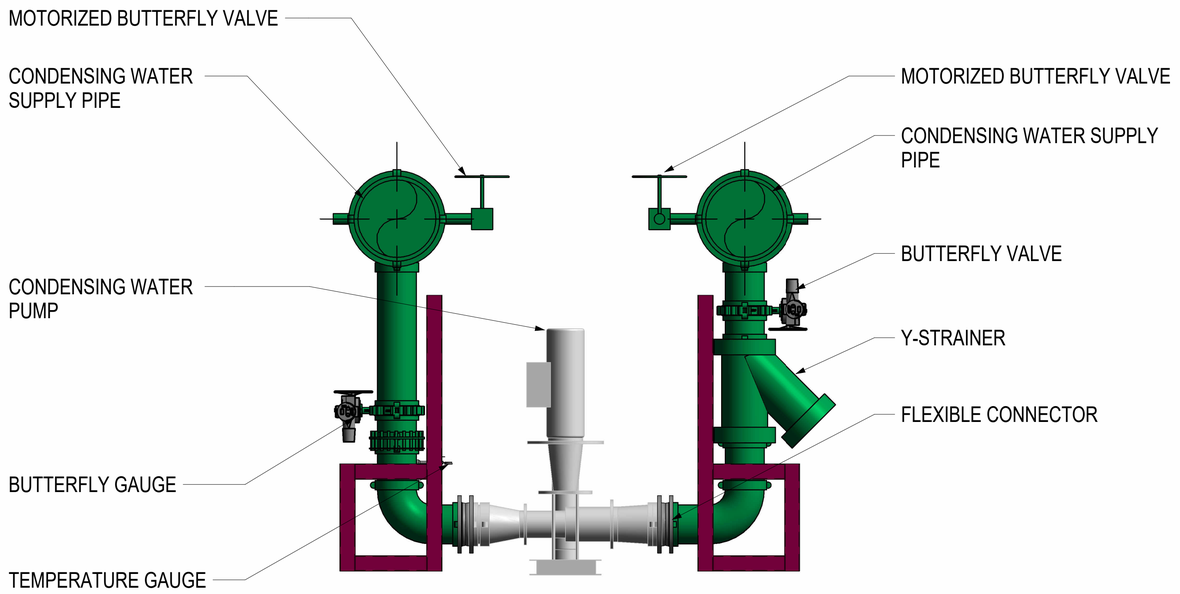
DCS SUBSTATION				
Appendix	**Drawing No.**	Revision	**Drawing Title**	**Scale**
C	SC/G/001	B	GENERAL NOTES OF SUBSTATION MIMEP	NTS
	SC/G/002	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 TO TYPE 12	NTS
	SC/G/003	B	GENERAL ARRANGEMENT OF SUBSTATION BUILDER WORKS	A1 1:50
	SC/L/001-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 1 OF 4	A1 1:20
	SC/L/001-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/001-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/001-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/002-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 1 OF 4	A1 1:20
	SC/L/002-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/002-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/002-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/003-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 3 - SHEET 1 OF 4	A1 1:20
	SC/L/003-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 3 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/003-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 3 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/003-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 3 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/004-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 1 OF 4	A1 1:20
	SC/L/004-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/004-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/004-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/005-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 1 OF 4	A1 1:20
	SC/L/005-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/005-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/005-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/006-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 1 OF 4	A1 1:20
	SC/L/006-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/006-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/006-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/007-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 1 OF 4	A1 1:20
	SC/L/007-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/007-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/007-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/008-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 1 OF 4	A1 1:20
	SC/L/008-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/008-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/008-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 4 OF 4	A1 AS INDICATED
	SC/L/009-1	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 1 OF 4	A1 1:20
	SC/L/009-2	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 2 OF 4	A1 AS INDICATED
	SC/L/009-3	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 3 OF 4	A1 AS INDICATED
	SC/L/009-4	B	GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 4 OF 4	A1 AS INDICATED
	SC/M/001A	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M1-A	A1 1:20
	SC/M/001B	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M1-B	A1 1:20
	SC/M/001C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M1-C	A1 1:20
	SC/M/002B	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M2-B	A1 1:20
	SC/M/002C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M2-C	A1 1:20
	SC/M/003C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M3-C	A1 1:20
	SC/M/004A	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-A	A1 1:20
	SC/M/004B	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-B	A1 1:20
	SC/M/004C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-C	A1 1:20
	SC/M/005A	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M5-A	A1 1:20
	SC/M/005B	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M5-B	A1 1:20
	SC/M/005C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M5-C	A1 1:20
	SC/M/006A	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M6-A	A1 1:20
	SC/M/006B	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M6-B	A1 1:20
	SC/M/006C	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M6-C	A1 1:20
	SC/M/007A	B	GENERAL ARRANGEMENT OF SUBSTATION MODULE M7-A	A1 1:20

APPENDIX B

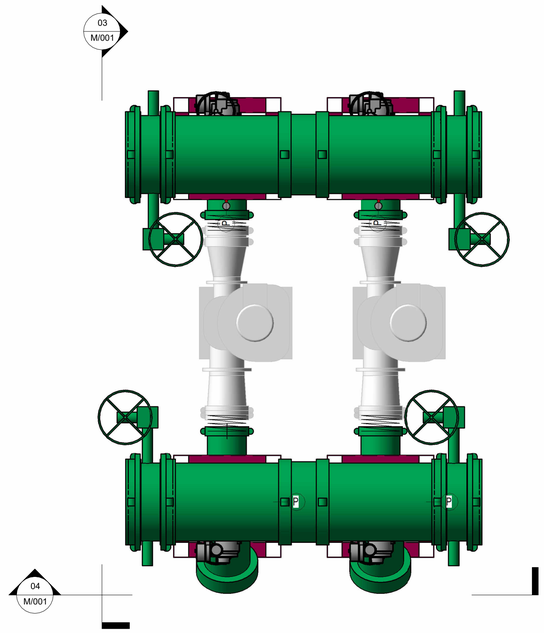
DCS Main Plant Drawing



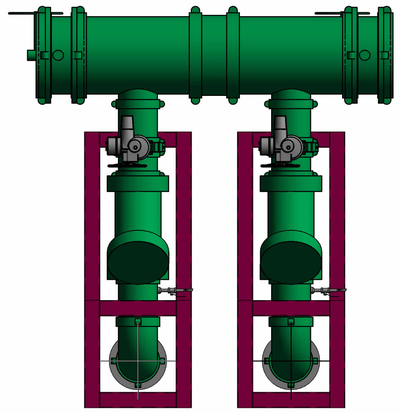
01 Condensing Pump Modules - 3D View



03 Condensing Pump Modules - Section A
1 : 40



02 Condensing Pump Modules - Plan View
1 : 40



04 Condensing Pump Modules - Section B
1 : 40

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
PREFABRICATED CONDENSING WATER
PUMP MODULES

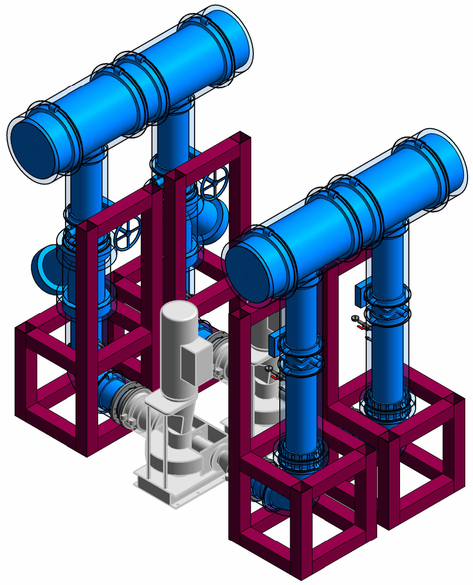
Drawing No.	Revision
MP/M/001	

Scale
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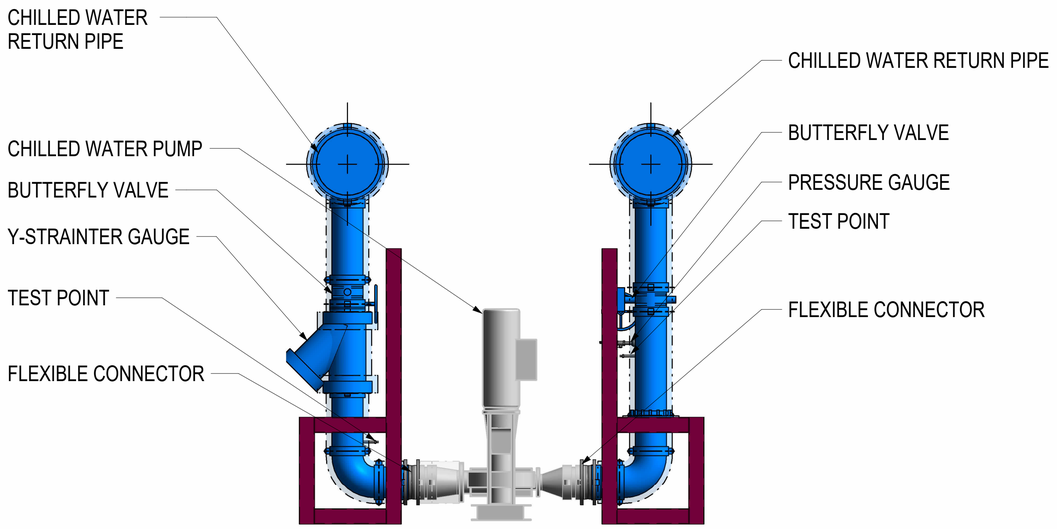
Client
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EMSD

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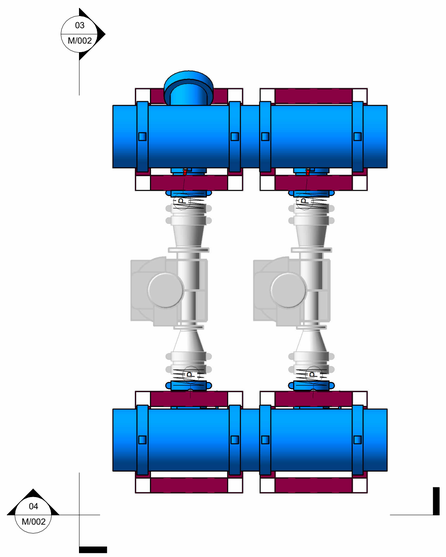
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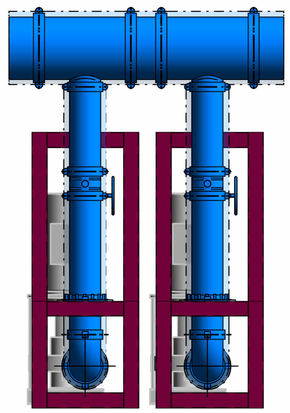
01 Chilled Water Pump Modules - 3D View



03 Chilled Water Pump Modules - Section A
1 : 40



02 Chilled Water Pump Modules- Plan View
1 : 40



04 Chilled Water Pump Modules - Section B
1 : 40

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
PREFABRICATED CHILLED WATER PUMP
MODULES

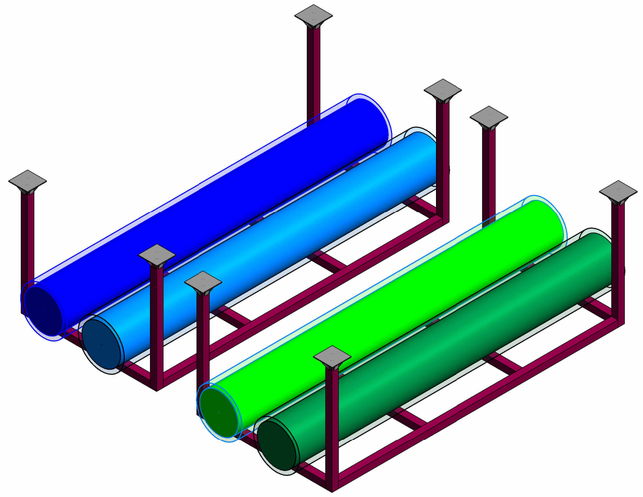
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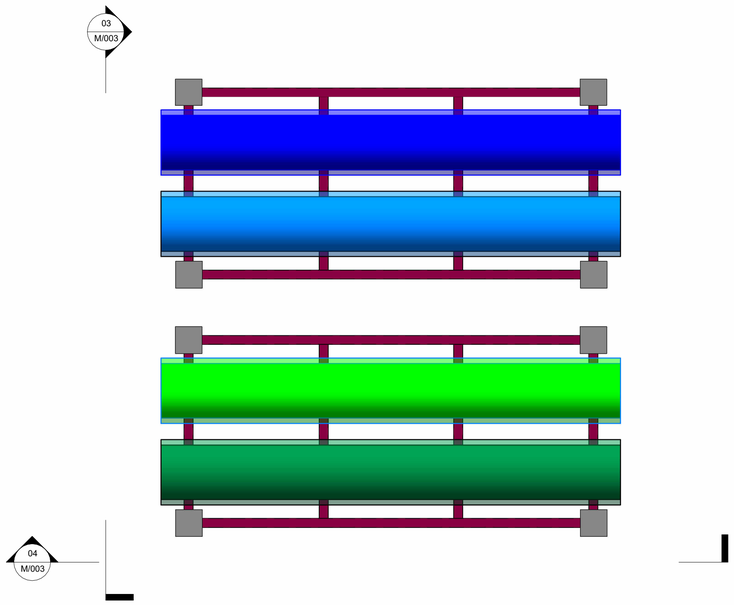
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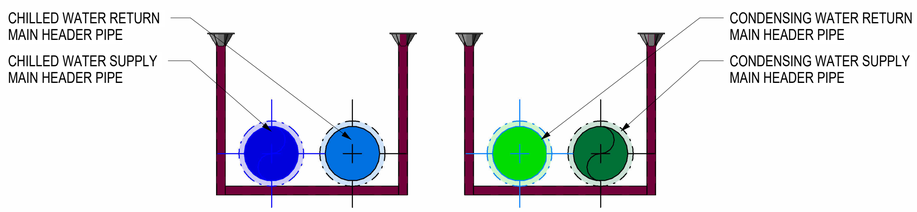
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01 Pipe Headers - 3D View



02 Pipe Headers - Plan View
1 : 40



03 Pipe Headers - Section A
1 : 40



04 Pipe Headers - Section B
1 : 40

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
PREFABRICATED CHILLED WATER AND
CONDENSING WATER HEADER PIPE

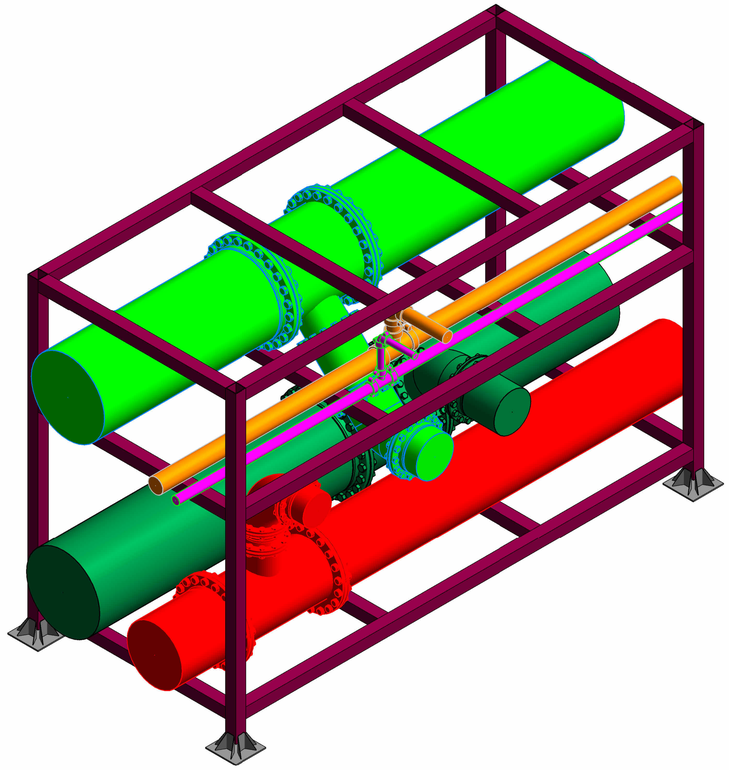
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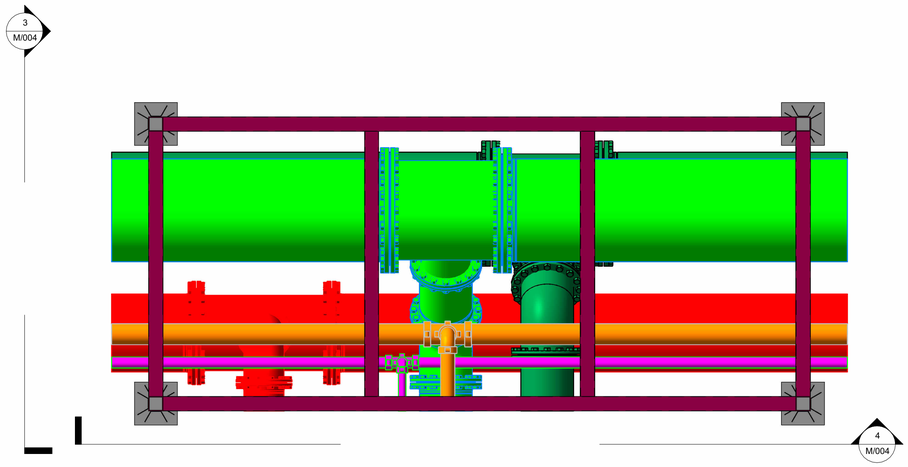
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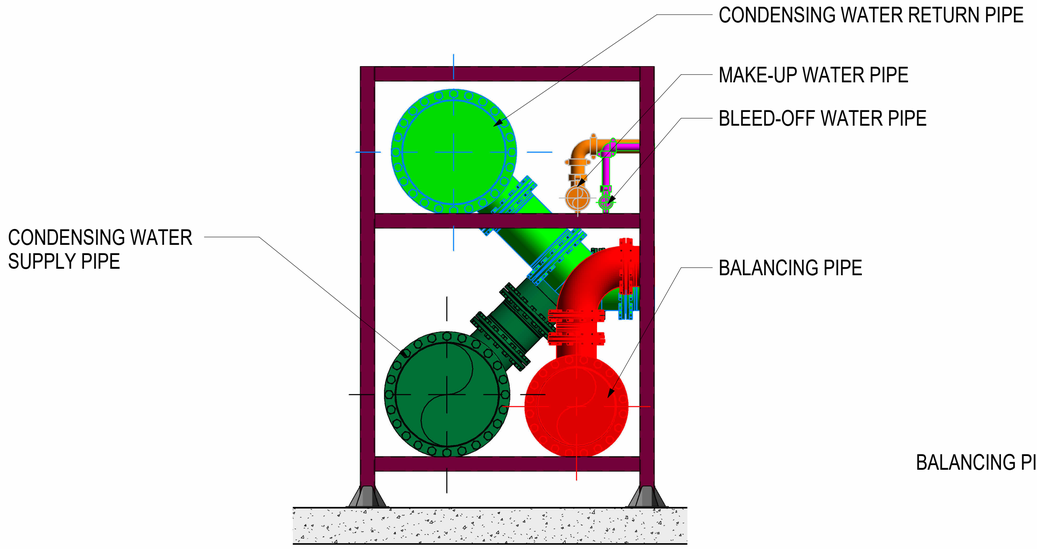
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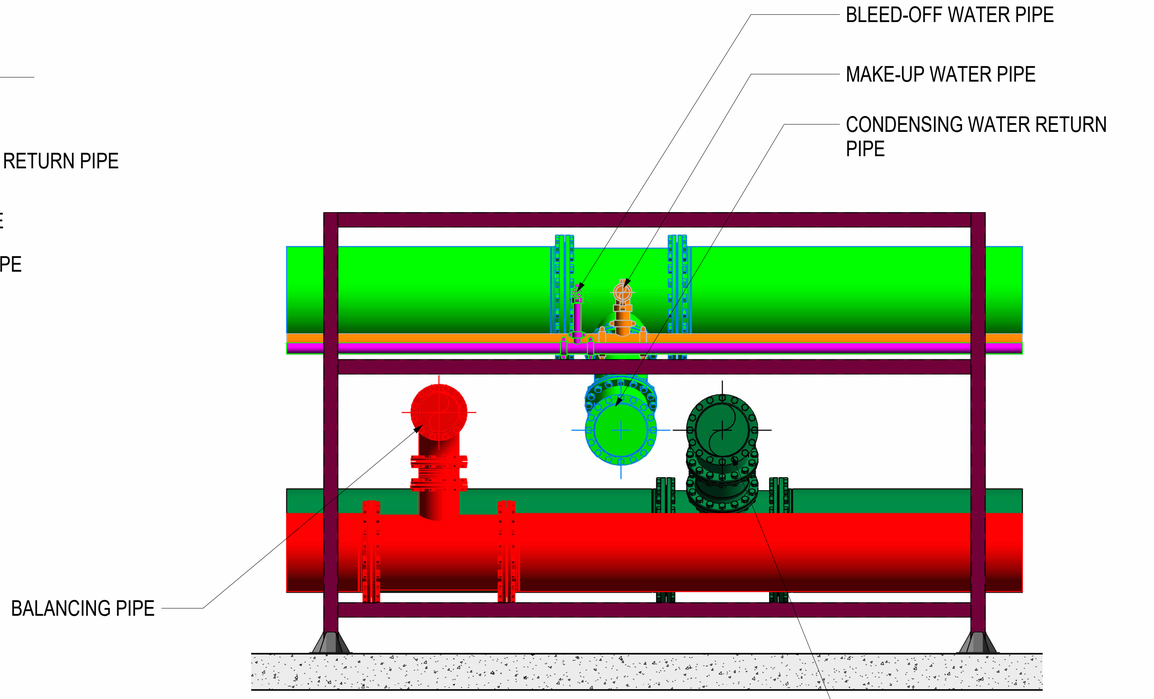
2 Cooling Tower Pipe Modules - 3D View



1 Cooling Tower Pipe Modules - Plan View
1 : 25



3 Cooling Tower Pipe Modules - Section A
1 : 25



4 Cooling Tower Pipe Modules - Section B
1 : 25

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
PREFABRICATED COOLING TOWER HEADER PIPE

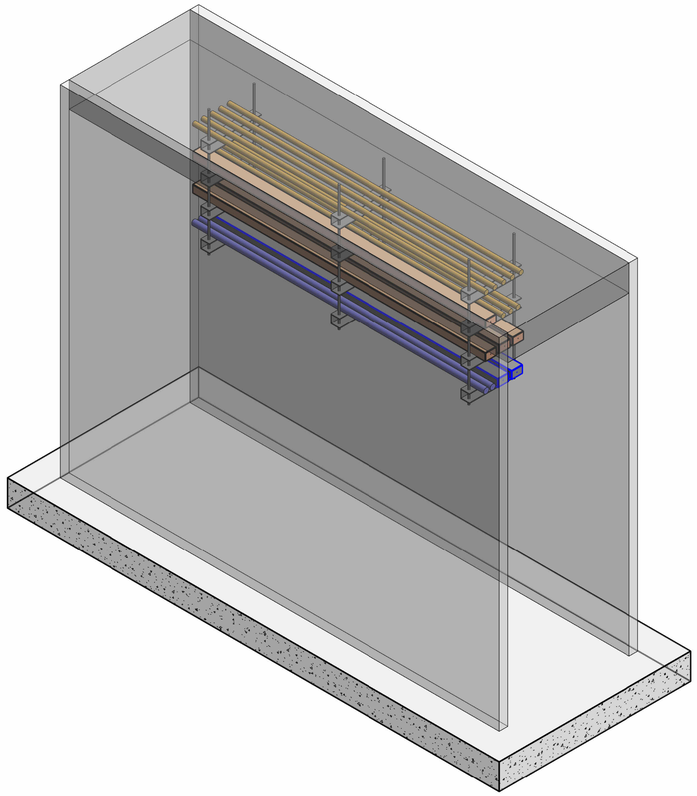
Drawing No.	Revision
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Scale
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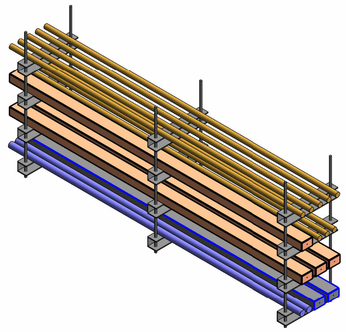
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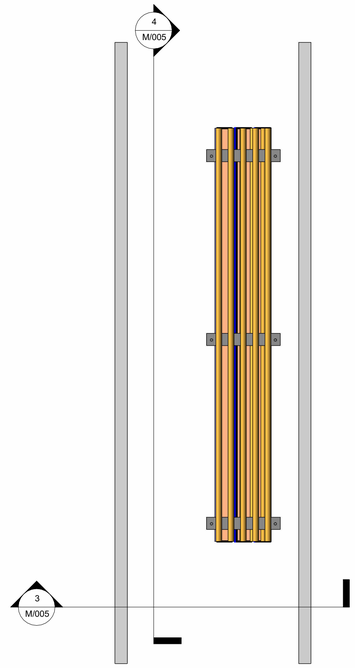
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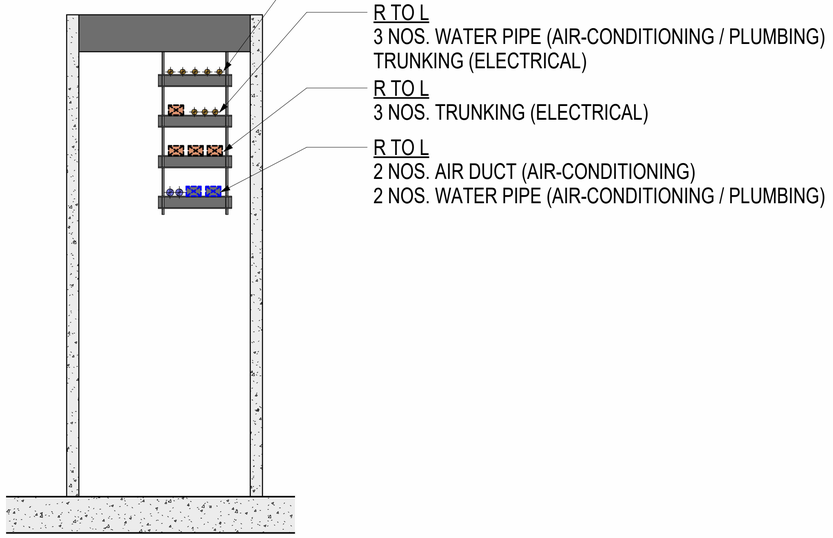


2 MiMEP Corridor Modules (Type 1) - 3D View



5 MiMEP Corridor Modules (Type 1) - 3D View



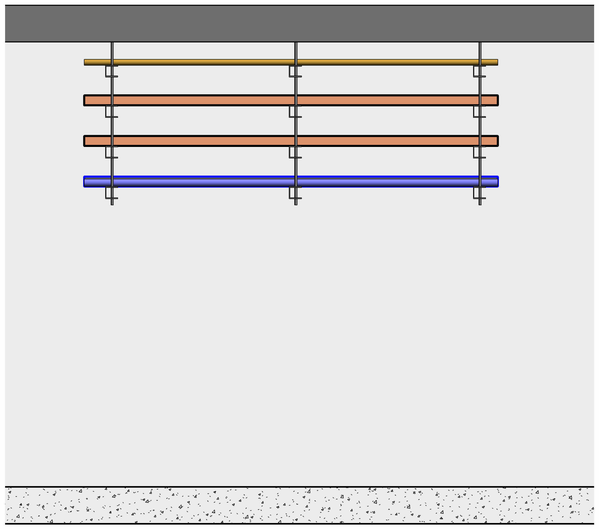


3 MiMEP Corridor Modules (Type 1) - Section A

1 : 25

1 MiMEP Corridor Modules (Type 1) - Plan View

1 : 25



4 MiMEP Corridor Modules (Type 1) - Section B

1 : 25

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Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
MIMEP CORRIDOR MODULES (TYPE 1)

Drawing No.	Revision
MP/M/005	

Scale

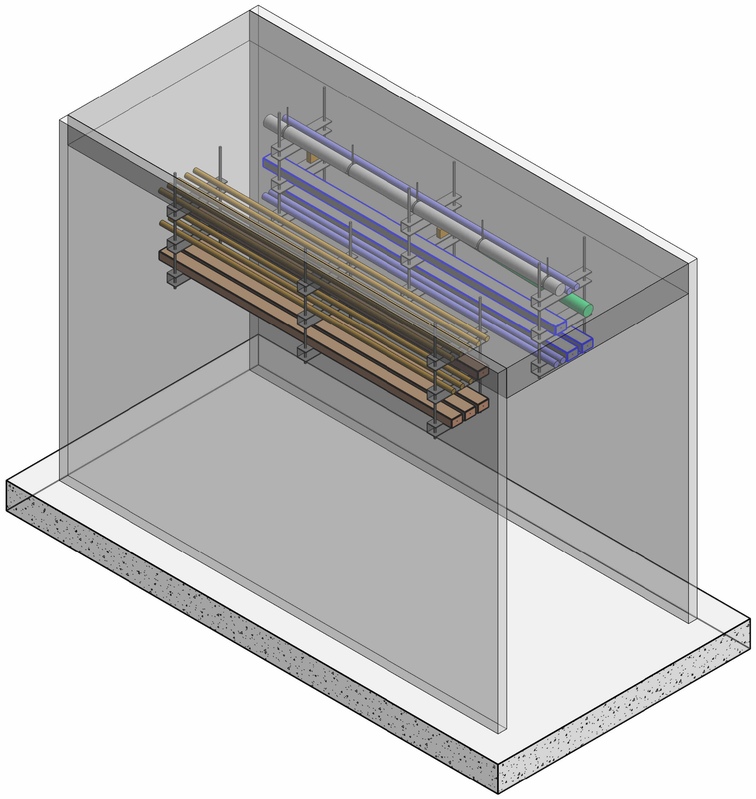
A1 1 : 25

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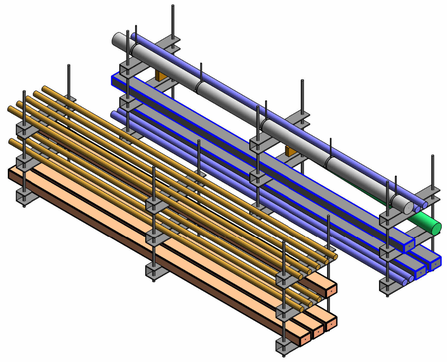
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EMSD

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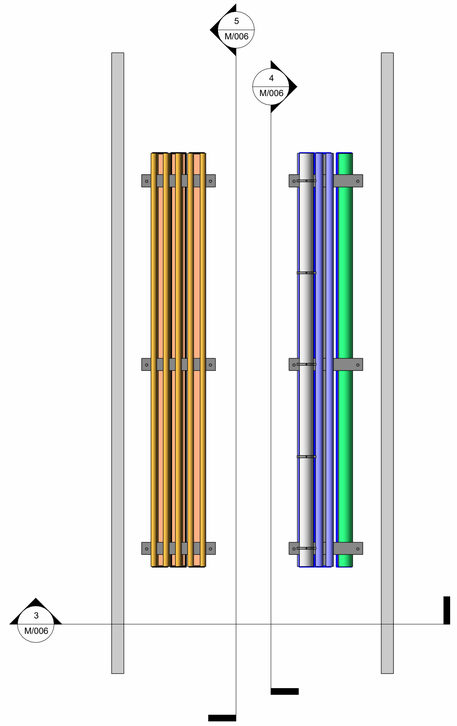
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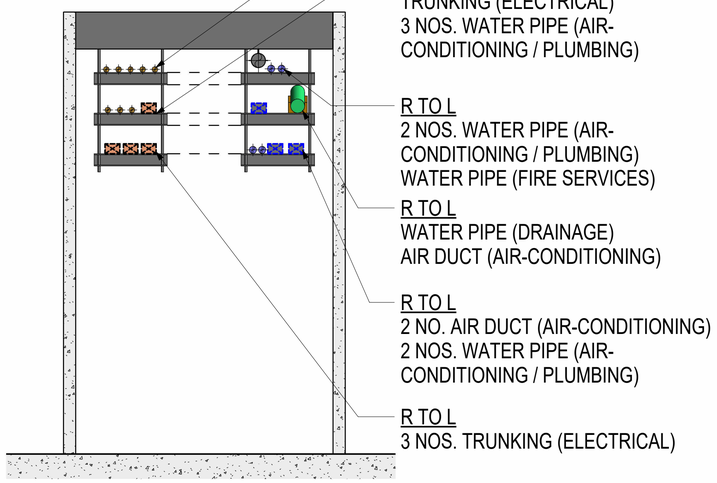
2 MiMEP Corridor Modules (Type 2) - 3D View



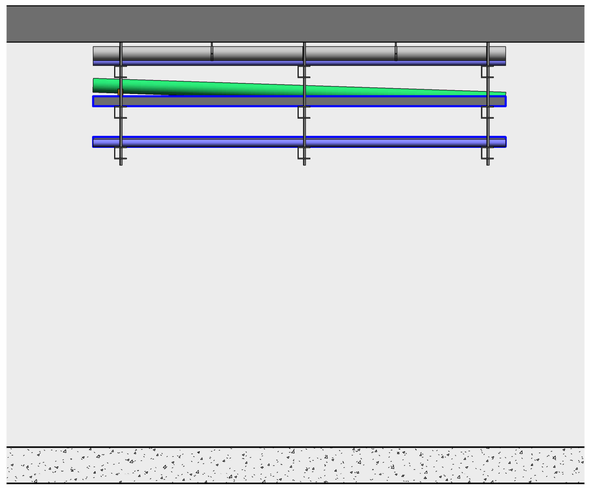
6 MiMEP Corridor Modules (Type 2) - 3D View



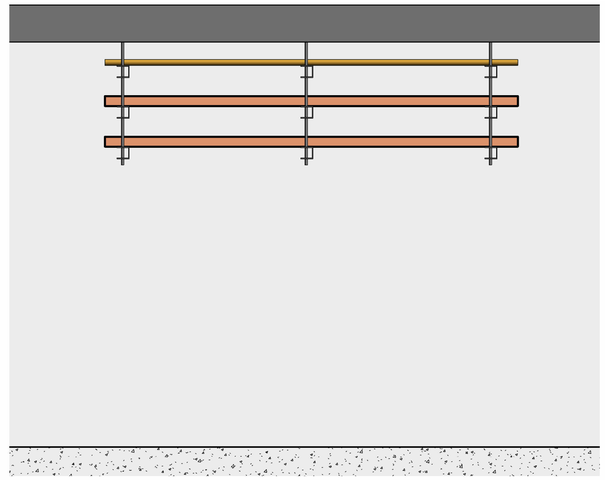
1 MiMEP Corridor Modules (Type 2) - Plan View
1 : 25



3 MiMEP Corridor Modules (Type 2) - Section A
1 : 25



4 MiMEP Corridor Modules (Type 2) - Section B
1 : 25



5 MiMEP Corridor Modules (Type 2) - Section C
1 : 25

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT
OF MAIN PLANT
MIMEP CORRIDOR MODULES (TYPE 2)

Drawing No.	Revision
MP/M/006	

Scale
A1 1 : 25

Client
機電工程署
EMSD

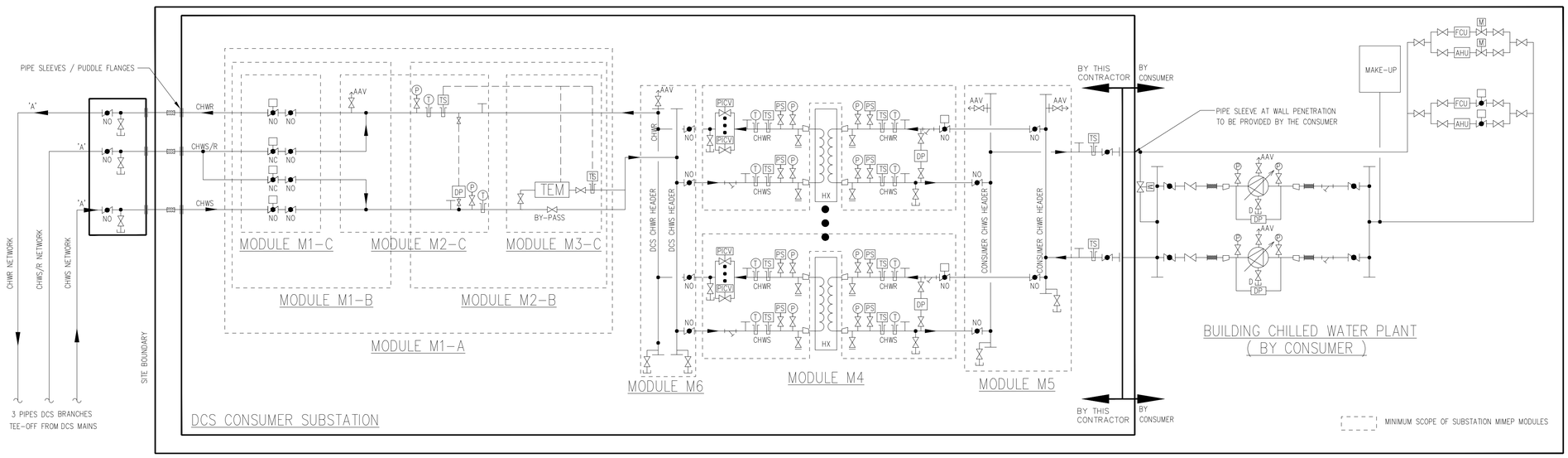
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APPENDIX C

DCS Substation Drawing

DCS CONSUMER SUBSTATION WATER SIDE SCHEMATIC



LEGEND

- BUTTERFLY VALVE (NORMALLY CLOSED / OPENED)
- MOTORIZED BUTTERFLY VALVE (NORMALLY CLOSED / OPENED)
- DRAIN VALVE
- TEMPERATURE GAUGE
- FLOW METER
- TEMPERATURE SENSOR
- PRESSURE SENSOR
- PRESSURE GAUGE
- 2-WAY MODULATING VALVE
- PRESSURE DIFFERENTIAL SWITCH
- DOUBLE REGULATING BALANCING VALVE
- THERMAL ENERGY METER (SINGLE UNIT)
- PRESSURE INDEPENDENT CONTROL VALVE
- TEST POINT
- FLOW SWITCH
- HEAT EXCHANGER
- FAN COIL UNIT
- AIR HANDLING UNIT
- GATE VALVE, BUT BUTTERFLY VALVE SHALL BE USED FOR PIPE DIAMETER 200mm OR ABOVE
- NON-RETURN VALVE
- EXPANSION JOINT
- ECCENTRIC REDUCER
- PRESSURE GAUGE WITH COCK
- AUTOMATIC AIR VENT C/W ISOLATING VALVE
- WATER CIRCULATION PUMP
- Y-TYPE STRAINER
- FLEXIBLE PIPE CONNECTOR
- GATE VALVE FOR FLUSHING

GENERAL

1. EXCEPT FOR SERVICES SPECIFICALLY DESIGNED TO SERVE THE DCS CONSUMER SUBSTATION, NO SERVICES MAY BYPASS OR ENTER THE SUBSTATION.
2. THIS SET OF DRAWINGS SHOULD BE USED IN CONJUNCTION WITH THE LATEST VERSION OF THE TECHNICAL GUIDELINES FOR CONNECTION TO THE DISTRICT COOLING SYSTEM (GUIDELINES) ISSUED BY EMSD. THE MIMEP CONTRACTOR AND APPROVED CONSUMER OF DCServ SHOULD REFER TO THE GUIDELINES FOR DETAILS WHERE NECESSARY.
3. THIS SET OF DRAWINGS CONSISTS OF THREE PARTS, INCLUDING GENERAL NOTES, SUBSTATION LAYOUTS AND SECTION DRAWINGS, AND MODULE DRAWINGS.

BUILDER'S WORKS

4. THE CLEAR ROOM SIZE REQUIREMENTS FOR SUBSTATION TYPES 1 TO 12, AS STATED IN DRAWING BIN/G/002, EXCLUDE ANY HOISTING FACILITIES AND STRUCTURAL ELEMENTS. THE DIMENSIONS OF THE SUBSTATION WILL BE SUBJECT TO THE COOLING CAPACITY, SITE CONDITIONS, MODULE DIMENSIONS AND/OR COMMENTS FROM EMSD OR THEIR DELEGATE. THE SUBSTATION LAYOUT AND PROVISIONS SHALL BE DISCUSSED AND AGREED UPON BETWEEN THE APPROVED CONSUMER AND EMSD OR THEIR DELEGATE PRIOR TO INSTALLATION.
5. THE SUBSTATIONS IN THE LAYOUTS ARE ASSUMED TO BE AT GROUND LEVEL WITH DIRECT ACCESS FROM OPEN SPACE. FOR OTHER CASES, SUCH AS SUBSTATIONS LOCATED IN THE BASEMENT, THE APPROVED CONSUMER SHALL PROVIDE NECESSARY ACCESS WITH ADEQUATE HEIGHT, WIDTH AND STRENGTH TO SUPPORT THE COMBINED WEIGHT OF THE EQUIPMENT, MIMEP MODULE, AND DELIVERY VEHICLE DURING INSTALLATION AND REPLACEMENT.
6. ADEQUATE LIVE LOAD SHOULD BE ALLOWED AT CEILING, FLOOR AND WALLS OF THE SUBSTATION FOR DCServ EQUIPMENT AND MIMEP MODULES. THE REFENCE SERVICE LOAD FOR THE PLATE HEAT EXCHANGERS AND THE MODULES ARE STATED IN DRAWING BIN/G/002 FOR REFERENCE.
7. HOISTING EQUIPMENT SHALL BE PROVIDED FOR THE INSTALLATION FOR PLATE HEAT EXCHANGERS AND MIMEP MODULE. SIZE OF SUCH HOISTING EQUIPMENT SHALL BE ADEQUATE TO LIFT ALL THE DCServ EQUIPMENT. DRAWING BIN/G/003 PROVDIES THE REFERENCE LOCATIONS FOR HOISTING. THE APPROVED CONSUMER SHALL COORDINATE AND AGREE WITH EMSD OR THEIR DELEGATE ON THE ACTUAL LOCATIONS AND DETAILS.
8. THE CLEARANCES AND OPERATING AREAS REQUIRED AROUND THE EQUIPMENT SHOULD BE ADEQUATELY ALLOWED WITH DUE CONSIDERATION FOR FUTURE OPERATION, MAINTENANCE AND UPGRADE, AS INDICATED IN THE SUBSTATION LAYOUTS. THE ABOVE DIMENSIONS GIVEN ARE MEASURED FROM PLINTH TO PLINTH OR ANY OBSTACLE, AND SUBJECT TO FINAL APPROVAL BY EMSD OR THEIR DELEGATE
9. IF THE CRANE LORRY CANNOT ACCESS OR PARK AT THE SUBSTATION ENTRANCE FOR EQUIPMENT DELIVERY DUE TO SITE CONSTRAINTS, THE CONSUMER SHALL PROPOSE ALTERNATIVE FEASIBLE DELIVERY SOLUTIONS, PROVIDE THE NECESSARY ASSISTANCE, AND OBTAIN THE CONSENT OF EMSD OR ITS DELEGATE TO ENSURE THAT THE EQUIPMENT CAN BE DELIVERED INTO THE SUBSTATION SAFELY AND SMOOTHLY.
10. WICKET DOOR(S) MAY NOT BE SHOWN ON THE TYPICAL DRAWINGS. THE CONSUMER SHALL COORDINATE AND AGREE WITH EMSD OR ITS DELEGATE ON THE PROVISION AND DETAILS OF WICKET DOOR(S) TO SUIT SITE-SPECIFIC CONDITIONS.

MIMEP MODULE INSTALLATION

11. ALL MIMEP MODULES PROVIDED IN THIS SET OF DRAWINGS ARE FOR REFERENCE ONLY AND REPRESENT THE MINIMUM-SCOPE MIMEP SOLUTION FOR DCS SUBSTATIONS. THE MIMEP CONTRACTOR (EMPLOYED BY EMSD) SHALL MODIFY THE MODULE DESIGN, INCLUDING BUT NOT LIMITED TO THE MODULE FRAME, CONNECTION METHOD, MOUNTING METHOD, PIPING ARRANGEMENT BASED ON THE APRROVED MATERIALS, ON-SITE STRUCTURAL ELEMENT, BREAKDOWN INTO SMALLER MODULE TO SUIT ACTUAL SITE DELIVERY PATH CONSTRAINS IF NECESSARY AND INCREASE THE MIMEP COVERAGE WHENEVER POSSIBLE.
12. THE MODULE FRAME SHOULD BE DESIGNED FOR DELIVERY PROTECTION AND MAINTAINABILITY, INSTRUCTMENT REPLACEMENT, AND METER READING.
13. THE MIMEP MODULE SHOULD BE DESIGNED WITH MECHANICAL COUPLINGS, FLANGES, AND GROOVED-TYPE JOINTS AND FITTINGS. WELDING OF PIPEWORK SHOULD BE MINIMIZED WHENEVER POSSIBLE.
14. THE MIMEP CONTRACTOR SHOULD PROVIDE TEMPORARY TEE-OFFS AND ALL NECESSARY ACCESSORIES TO CONDUCT THE WATER PRESSURE TEST AFTER THE MIMEP INSTALLATION IS COMPLETED.
15. THE MIMEP MODULE DESIGN SHOULD RESERVE STRAIGHT RUN FOR APPROVED ENERGY METER BASED ON SUPPLIER'S SUGGESTION.
16. THE INSTALLTION SEQUENCE IN THIS DRAWING SET IS FOR REFERENCE ONLY, MIMEP CONTRACTOR SHOULD PROVIDE DELIVERY AND INSTALLATION PLAN FOR SPECIFIC PROJECT.
17. LOOSE ACCESSORIES (E.G. AIR VENT) MAY BE FIXED ON SITE TO FACILITATE THE EASY DELIVERY OF THE MODULE AND MINIMIZE THE RISKS OF DAMAGE DURING DELIVERY.

Drawing Title

GENERAL NOTES OF SUBSTATION MIMEP

Drawing No.	Revision
SC/G/001	B

Scale: N.T.S.

Client: 機電工程署 EMSD

Plot Date:

File Name:

Substation Room Type	Clear Room Size (L x W X H) (mm)	Consumer Cooling Load (kW)	nos. of PHE	Each PHE Capacity (kW)	Substation Lead-in Module Type and Pipe Size				PHE Connection Module Type and Pipe Size			Header Module Type and Pipe Size			Power Supply and Control Module	Consumer By-pass Pipe Size (mm)
					Module M1	Module M2	Module M3	Pipe Size (mm)	Module M4	Pipe Size (mm)	PICV Size (mm)	Module M5	Module M6	Pipe Size (mm)	Module M7	
1	7640 x 8620 x 4400	x ≤ 1200	2	600	M1-A			200	M4-A	150	100	M5-A	M6-A	200	M7-A	150
		1200 < x ≤ 1800	2	900							150					
2	7640 x 9230 x 4400	1800 < x ≤ 3000	2	1500							200					
3	8280 x 10690 x 4700	3000 < x ≤ 4200	2	2100	M1-B		M2-B	300	M4-B	200	150 x 2	M5-B	M6-B	300		200
		4200 < x ≤ 5400	2	2700												
4	8280 x 11480 x 4700	5400 < x ≤ 7200	2	3600				400		250	200 x 2			400		
		7200 < x ≤ 9600	2	4800							200 x 3					
5	9920 x 16000 x 5300	9600 < x ≤ 12000	2	6000	M1-C	M2-C	M3-C	500	M4-C	300	250 x 3	M5-C	M6-C	500		300
6	13130 x 16000 x 5300	12000 < x ≤ 18000	3	6000				600						600		
7	16340 x 16000 x 5300	18000 < x ≤ 24000	4	6000												
8	19550 x 16000 x 5400	24000 < x ≤ 30000	5	6000				700						700		400
9	22760 x 16000 x 5400	30000 < x ≤ 36000	6	6000												

Module Number	Minimum Module Dimension for Reference			Estimated Module Weight (kg)	Estimated Operating Weight (kg)	Operating Load / (L x W) (kPa)	Estimated Service Load (i.e. Local Equipment Point Load) for Reference (kPa)	Mounting Method	Remarks
	L (mm)	W (mm)	H (mm)						
M1-A	6300	900	3040	2000	2660	4.7	7.5	Floor-mounted	The modules can be transported in either an upright or lying down position.
M4-A	3400	1200	2670	1460	1960	4.8	7.5	Floor-mounted	
M5-A	1400	4470	650	590	910	1.5	3	Ceiling-mounted	
M6-A	1400	4220	650	570	880	1.5	3	Ceiling-mounted	
M1-B	3470	900	3700	2340	3920	12.6	25	Floor-mounted	
M2-B	4750	900	3700	2430	4230	9.9	12.5	Floor-mounted	
M4-B	3750	1840	3470	2800	3850	5.6	7.5	Floor-mounted	
M5-B	1720	5140	905	1260	2610	3.0	7.5	Ceiling-mounted	
M6-B	1720	5320	905	1280	2670	2.9	7.5	Ceiling-mounted	
M1-C	2520	1830	5280	6050	9910	21.5	25	Floor-mounted	
M2-C	2050	1700	5300	2680	5480	15.7	25	Floor-mounted	
M3-C	7240	2000	3050	6390	11880	8.2	12.5	Floor-mounted	
M4-C	4830	2100	3260	4730	6500	6.4	7.5	Floor-mounted	
M5-C	2490	6020	1420	3410	8090	5.4	7.5	Ceiling-mounted	
M6-C	2490	6370	1420	3410	8090	5.1	7.5	Ceiling-mounted	
M7	2600	380	2200	230	230	N/A	N/A	Wall-mounted	
PHE (TYPE 1 to 3)	3130	920	2800	4204	5055	17.6	25	Floor-mounted	PHE should remain in an upright position during delivery
PHE (TYPE 4 to 7)	4900	1100	2800	8730	11470	21.3	30	Floor-mounted	
PHE (TYPE 8 to 12)	6400	1410	3500	19380	25200	27.9	35	Floor-mounted	

REMARK:

1. THE MIMEP CONTRACTOR SHALL REVIEW THE MODULE WEIGHT AND OPERATING WEIGHT OF THE PROPOSED MODULE AND THE SELECTED PLATE HEAT EXCHANGER.

2. THE MIMEP CONTRACTOR SHALL PROPOSE AND COORDINATE WITH THE CONSUMER'S BUILDER REGARDING THE QUANTITY AND LOCATION OF HOISTING POINTS AND MOUNTING SUPPORT.

3. THE CONSUMER'S BUILDERS SHALL CONSTRUCT THE SUBSTATION THAT CATERS THE SERVICE LOAD OF THE DCS INSTALLATION WITH PLINTH BASED ON THE SELECTED SUBSTATION TYPE.

4. A VEHICULAR DELIVERY PATH FOR DIRECT CRANE-LORRY ACCESS TO THE SUBSTATION ENTRANCE SHALL BE PROVIDED AND SHALL COMPLY WITH THE EMERGENCY VEHICULAR ACCESS REQUIREMENTS OF THE BUILDINGS DEPARTMENT'S CODE OF PRACTICE FOR FIRE SAFETY IN BUILDINGS, EXCEPT THE MINIMUM CLEAR HEIGHT SHALL BE 4.7 M BENEATH ANY OVERHEAD STRUCTURE AND 5.7 M AT THE LOADING/UNLOADING AREA. SHOULD SUCH A PATH NOT BE FEASIBLE, THE CONSUMER SHALL PROVIDE ALL NECESSARY TOOLS AND ASSISTANCE AND SUBMIT A DETAILED ALTERNATIVE DELIVERY PROPOSAL FOR PRIOR ACCEPTANCE BY EMSD OR ITS DELEGATE.

5. THE CONSUMER'S BUILDER SHALL RESERVE OPENINGS FOR THE MIMEP MODULE AND THE HEAT EXCHANGER INSTALLATION, SIZED TO SUIT THE RESPECTIVE EQUIPMENT DIMENSIONS AND INSTALLATION TOLERANCES. FINAL OPENING SIZES AND LOCATIONS ARE SUBJECT TO SHOP DRAWINGS AND MANUFACTURER'S COORDINATION DETAILS.

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 1 TO TYPE 12

Drawing No. SC/G/002

Revision B

Scale N.T.S.

Client 機電工程署 EMSD

Plot Date:

File Name:



01 DCS Substation Layout - General

1 : 50

REMARKS:

1. INDICATIVE AND EXACT PROVISIONS AND LOCATION SHALL BE COORDINATED WITH EMSD OR THEIR DELEGATE AND COMPLY WITH RELEVANT SECTION OF THE LATEST VERSION OF THE TECHNICAL GUIDELINES FOR CONNECTION TO THE DISTRICT COOLING SYSTEM (GUIDELINES) ISSUED BY EMSD. AC UNIT(S) TO BE PROVIDED IF MECHANICAL VENTILATION IS NOT FEASIBLE

2. A PLINTH-LESS SUBSTATION DESIGN MAY BE PROPOSED TO FACILITATE EQUIPMENT DELIVERY, PROVIDED THAT STRUCTURAL SUPPORT AND WATERPROOFING ARE ADEQUATELY ADDRESSED.

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION BUILDER WORKS

Drawing No.	Revision
SC/G/003	B

Scale

A1 1 : 50

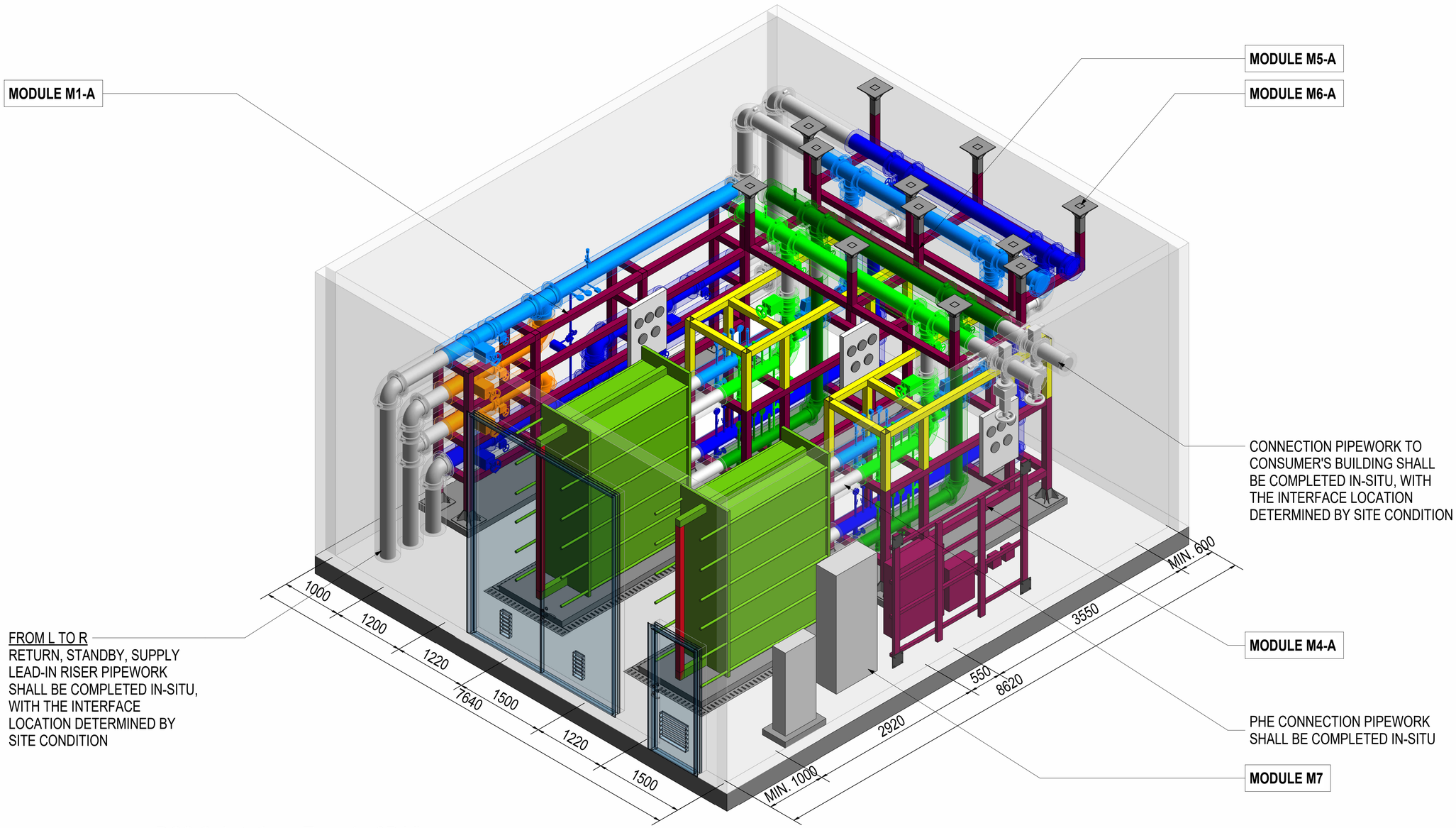
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機電工程署 EMSD

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01 DCS Substation - Type 1 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-A	6300 x 900 x 3040	2000	2660	Floor-mounted
M4-A	3400 x 1200 x 2670	1460	1960	Floor-mounted
M5-A	1400 x 4470 x 650	590	910	Celling-mounted
M6-A	1400 x 4220 x 650	570	880	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 1 OF 4

Drawing No. SC/L/001-1

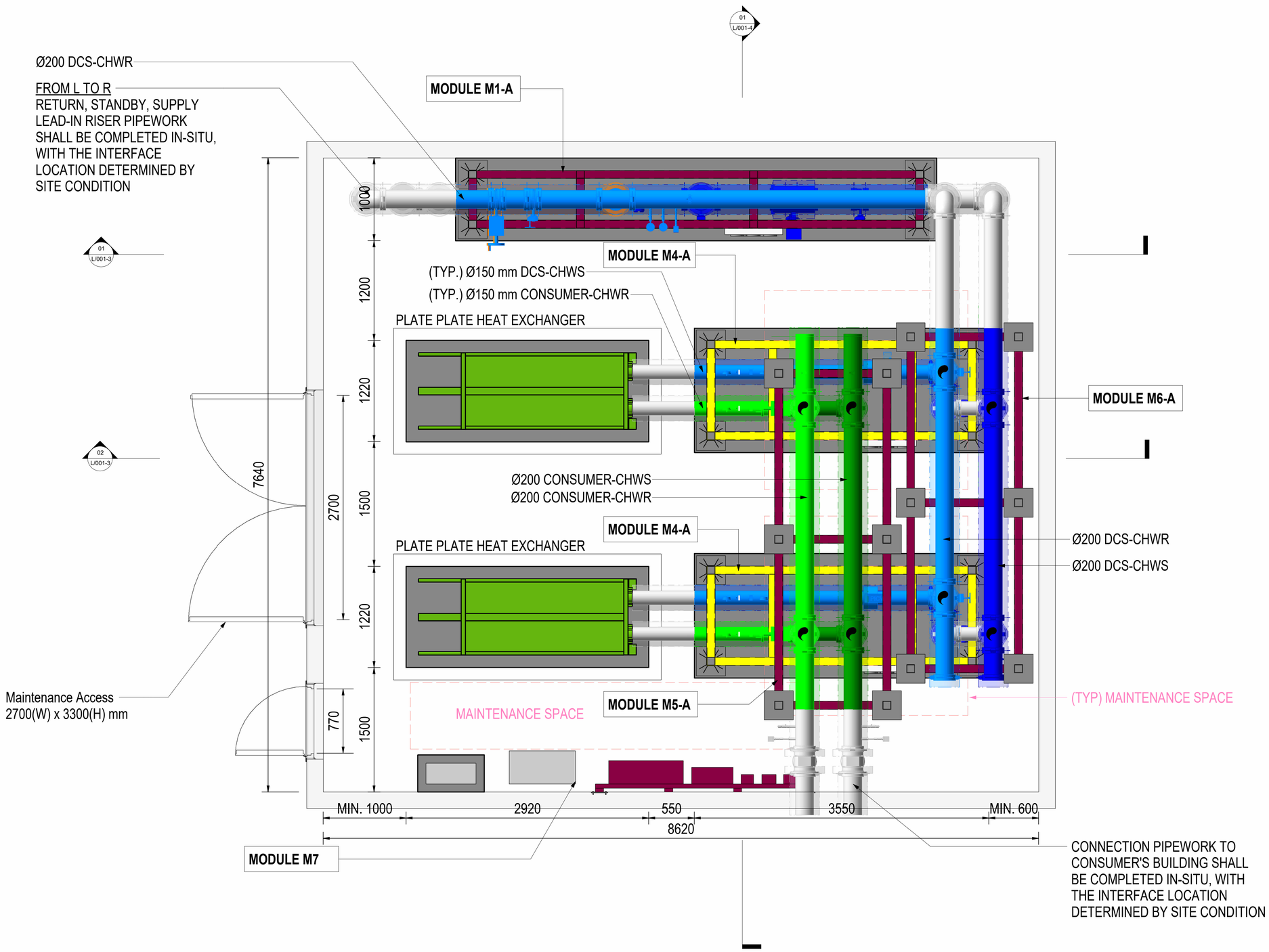
Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

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01 DCS Substation Layout - Type 1
1 : 25

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/001-2	B

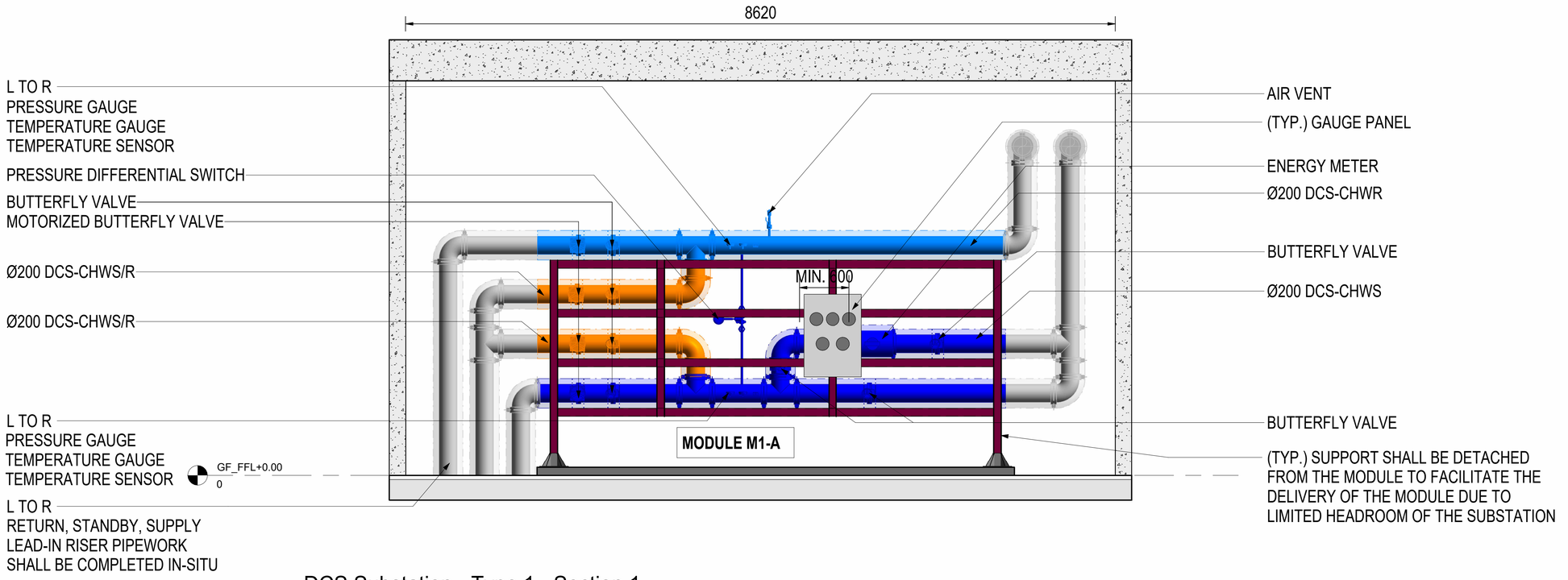
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Client: 機電工程署 EMSD

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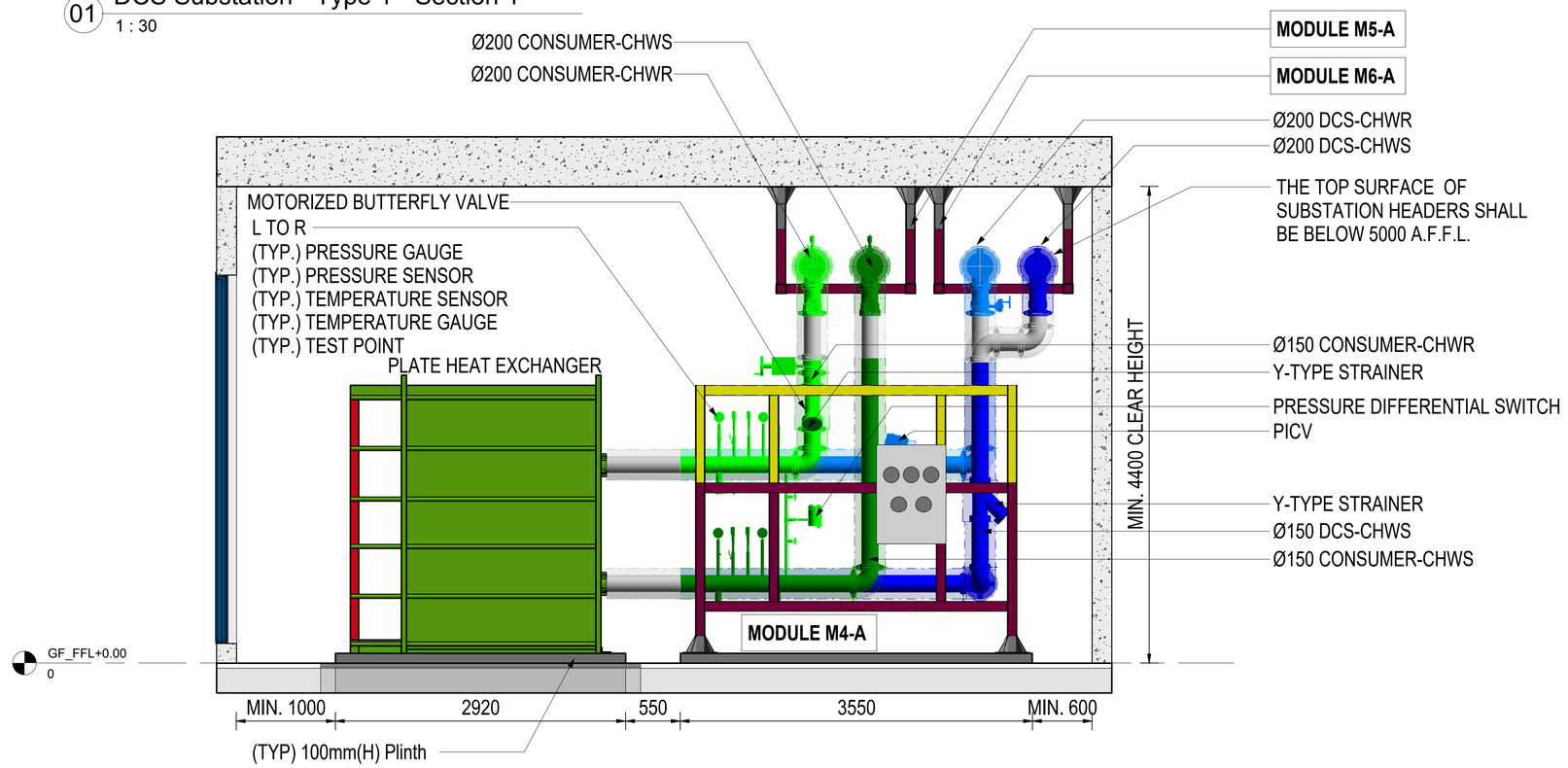
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01 DCS Substation - Type 1 - Section 1

1 : 30



02 DCS Substation - Type 1 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 3 OF 4

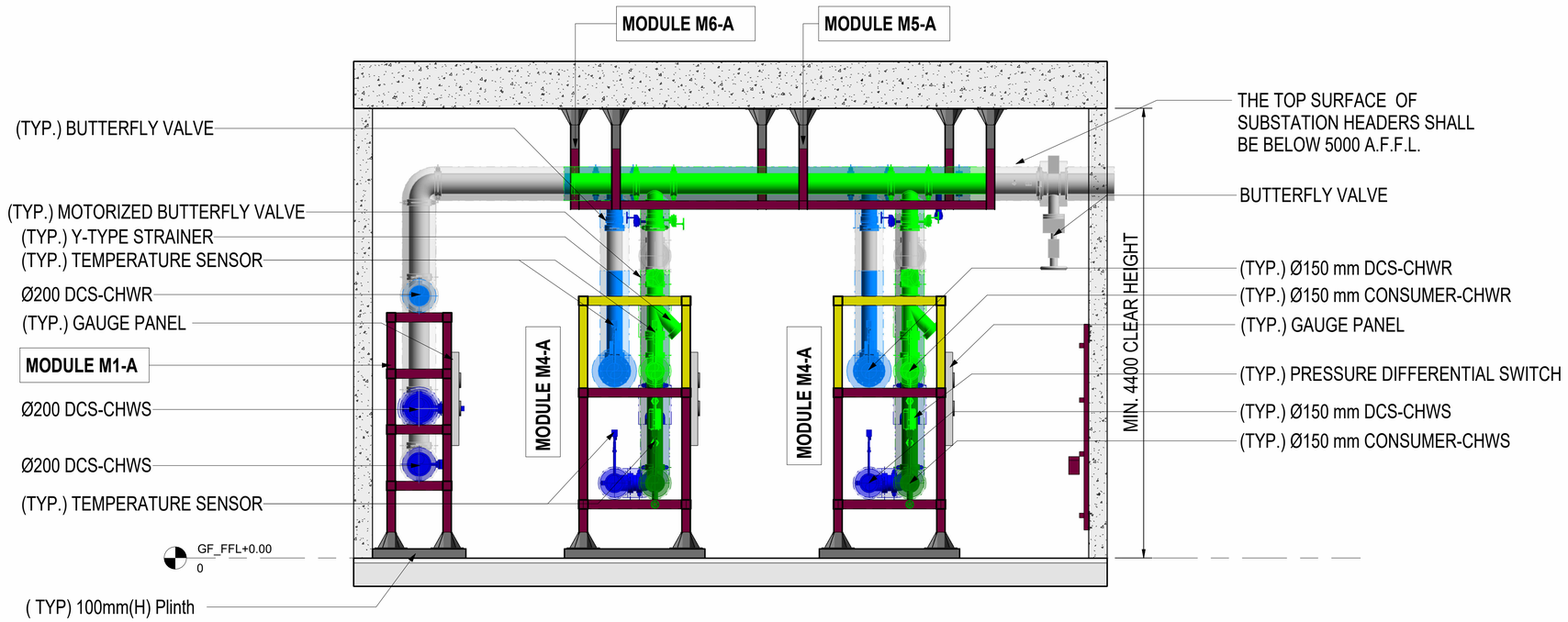
Drawing No.	Revision
SC/L/001-3	B

Scale: A1 As indicated

Client: 機電工程署 EMSD

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01 DCS Substation - Type 1 - Section 3

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 1 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/001-4	B

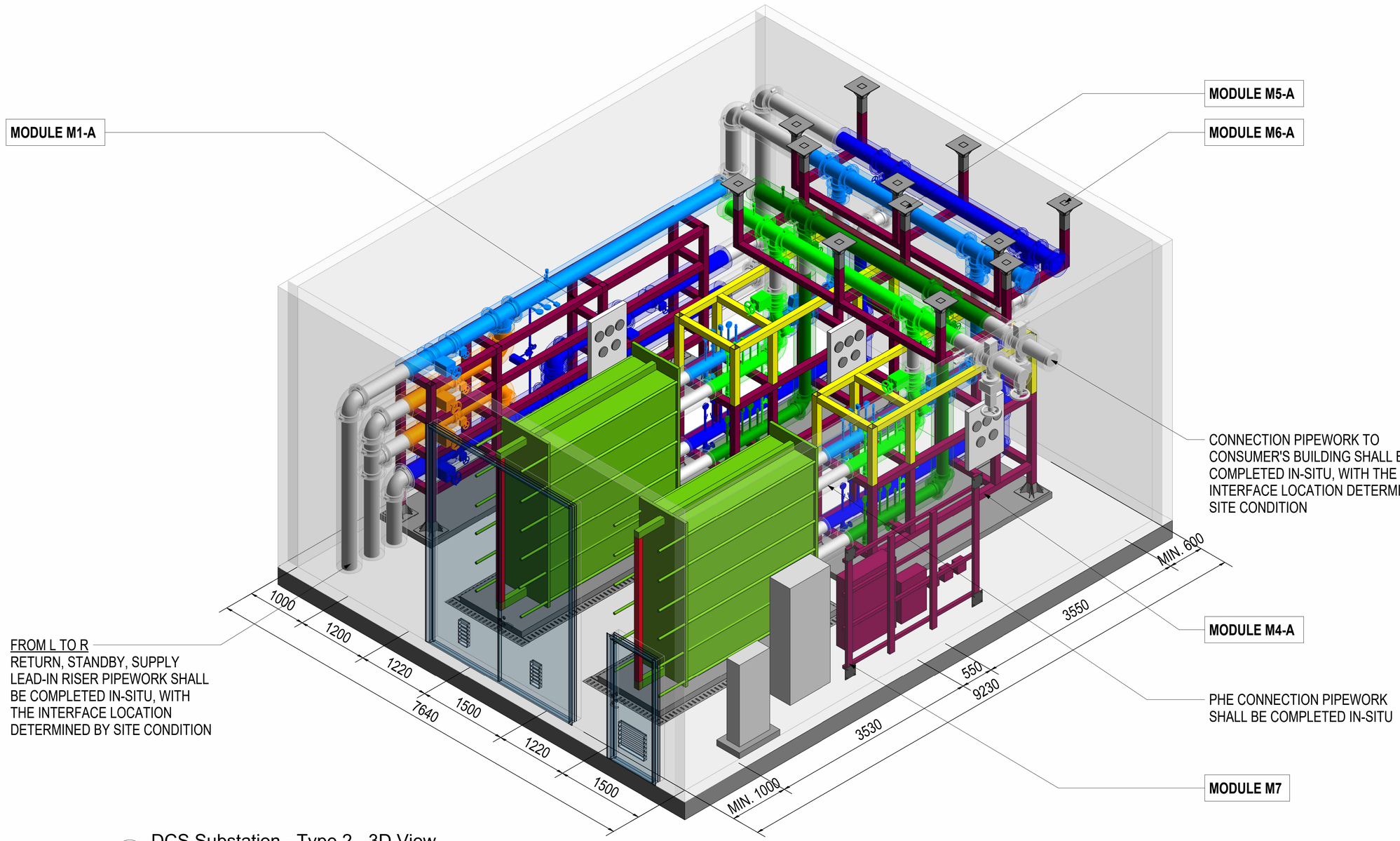
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 2 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-A	6300 x 900 x 3040	2000	2660	Floor-mounted
M4-A	3400 x 1200 x 2670	1460	1960	Floor-mounted
M5-A	1400 x 4470 x 650	590	910	Celling-mounted
M6-A	1400 x 4220 x 650	570	880	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 1 OF 4

Drawing No. SC/L/002-1

Revision B

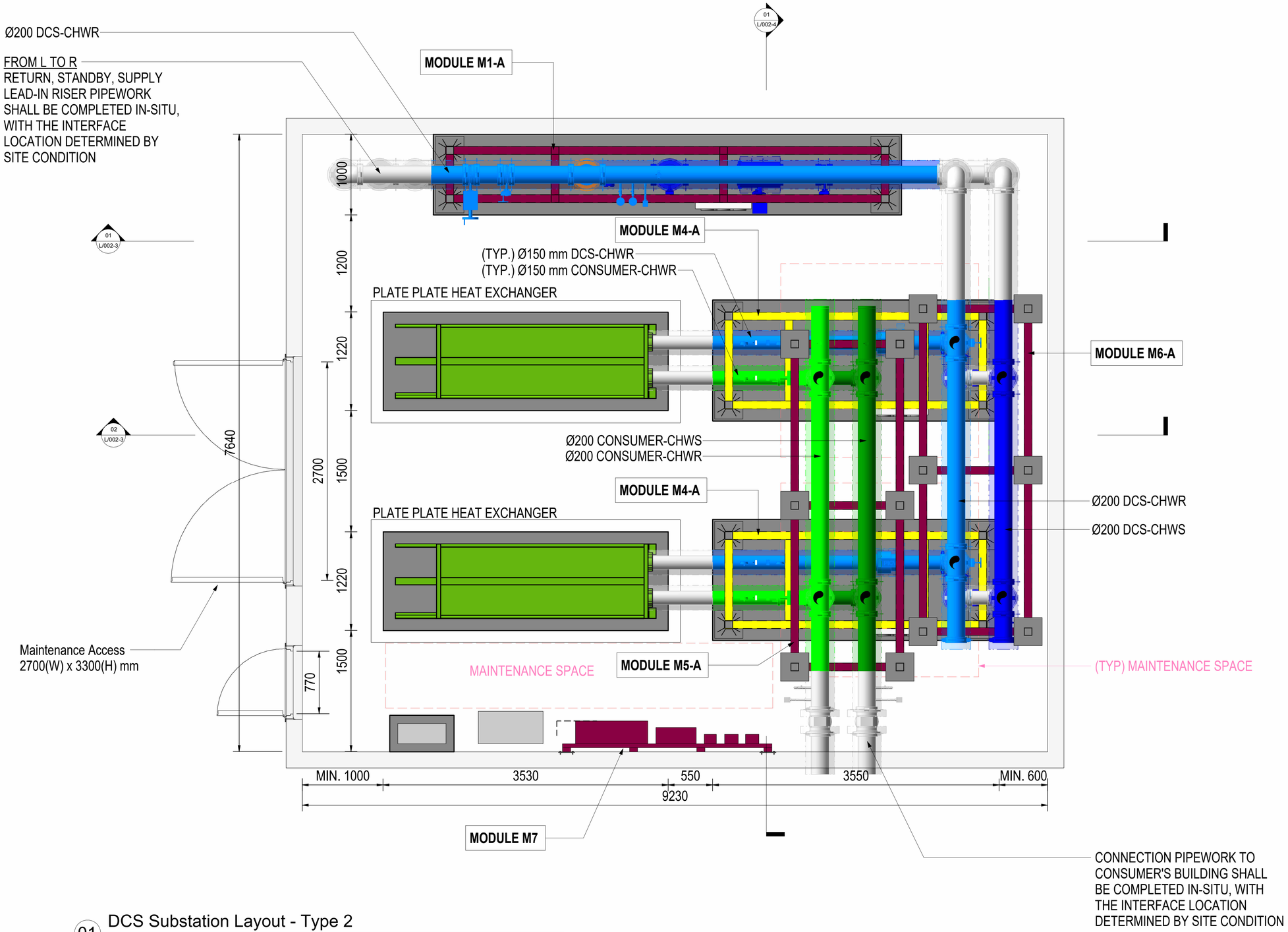
Scale A1 1 : 20

Client 機電工程署 EMSD

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01 DCS Substation Layout - Type 2

1 : 25

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 2 OF 4

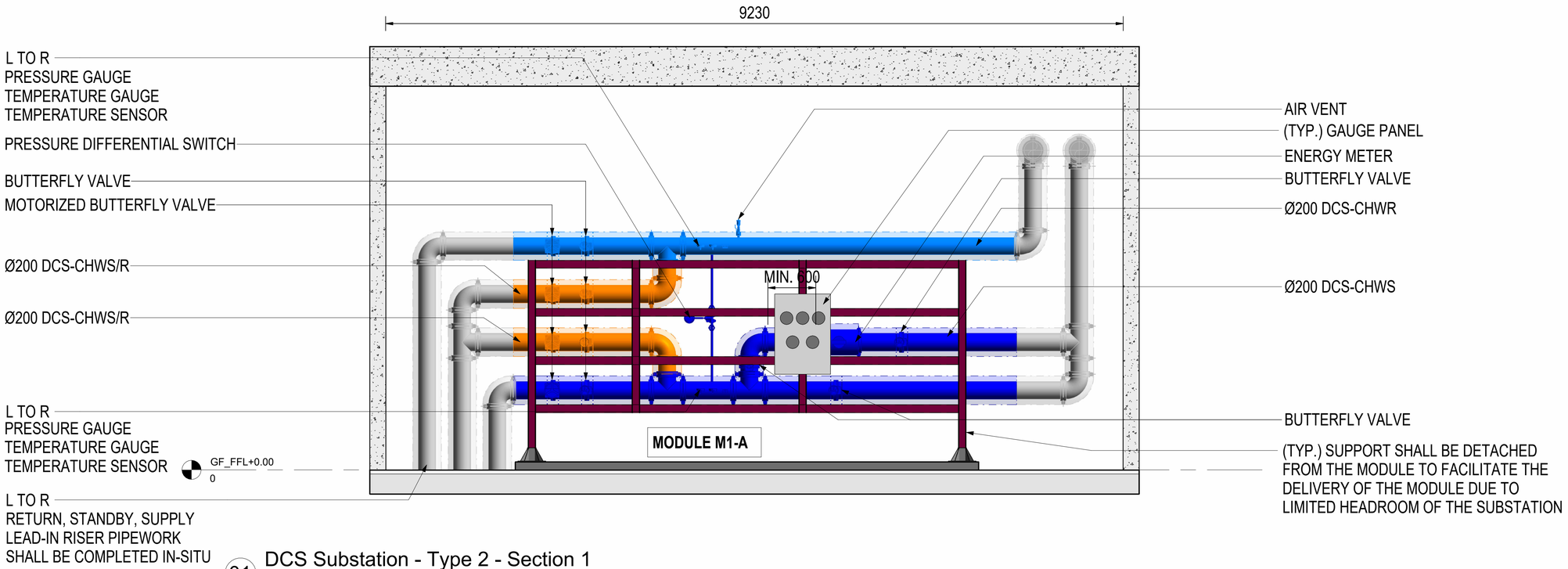
Drawing No.	Revision
SC/L/002-2	B

Scale: A1 As indicated

Client: 機電工程署 EMSD

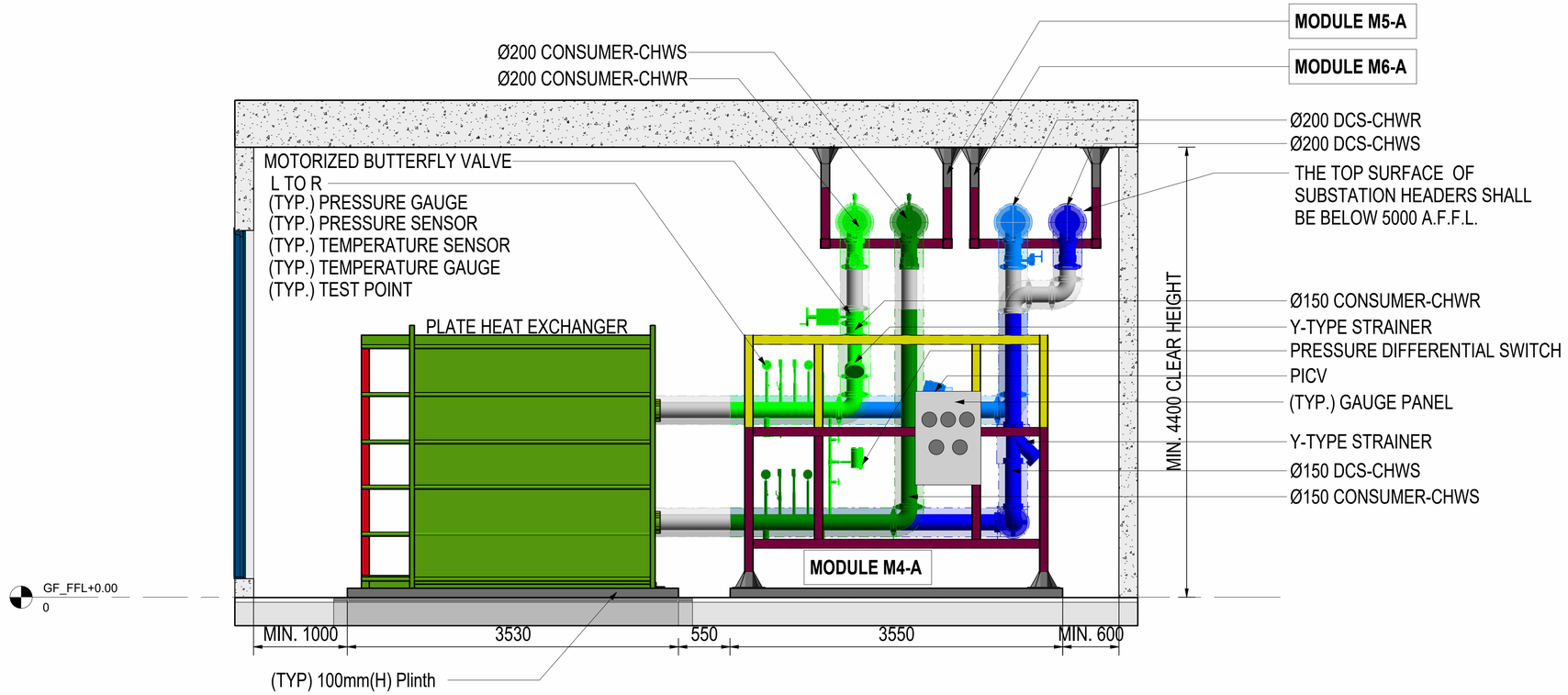
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01 DCS Substation - Type 2 - Section 1

1 : 30



02 DCS Substation - Type 2 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/002-3	B

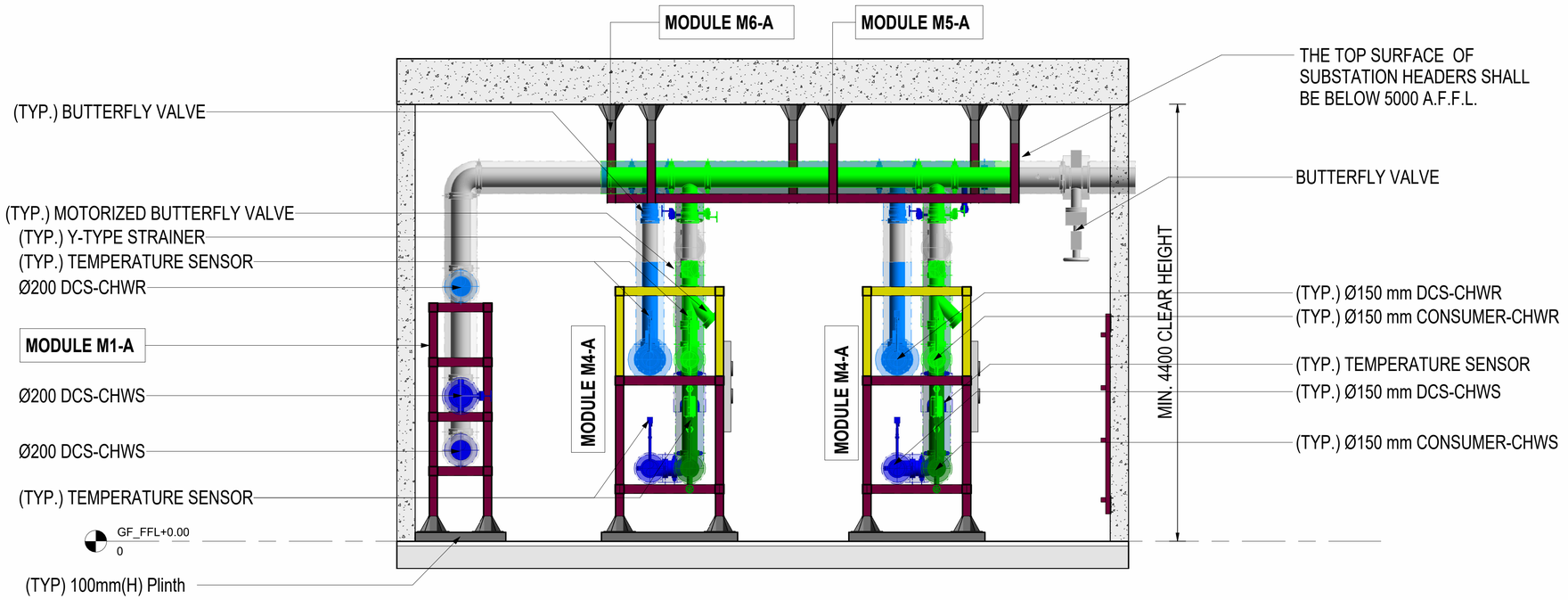
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 2 - Section 3

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 2 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/002-4	B

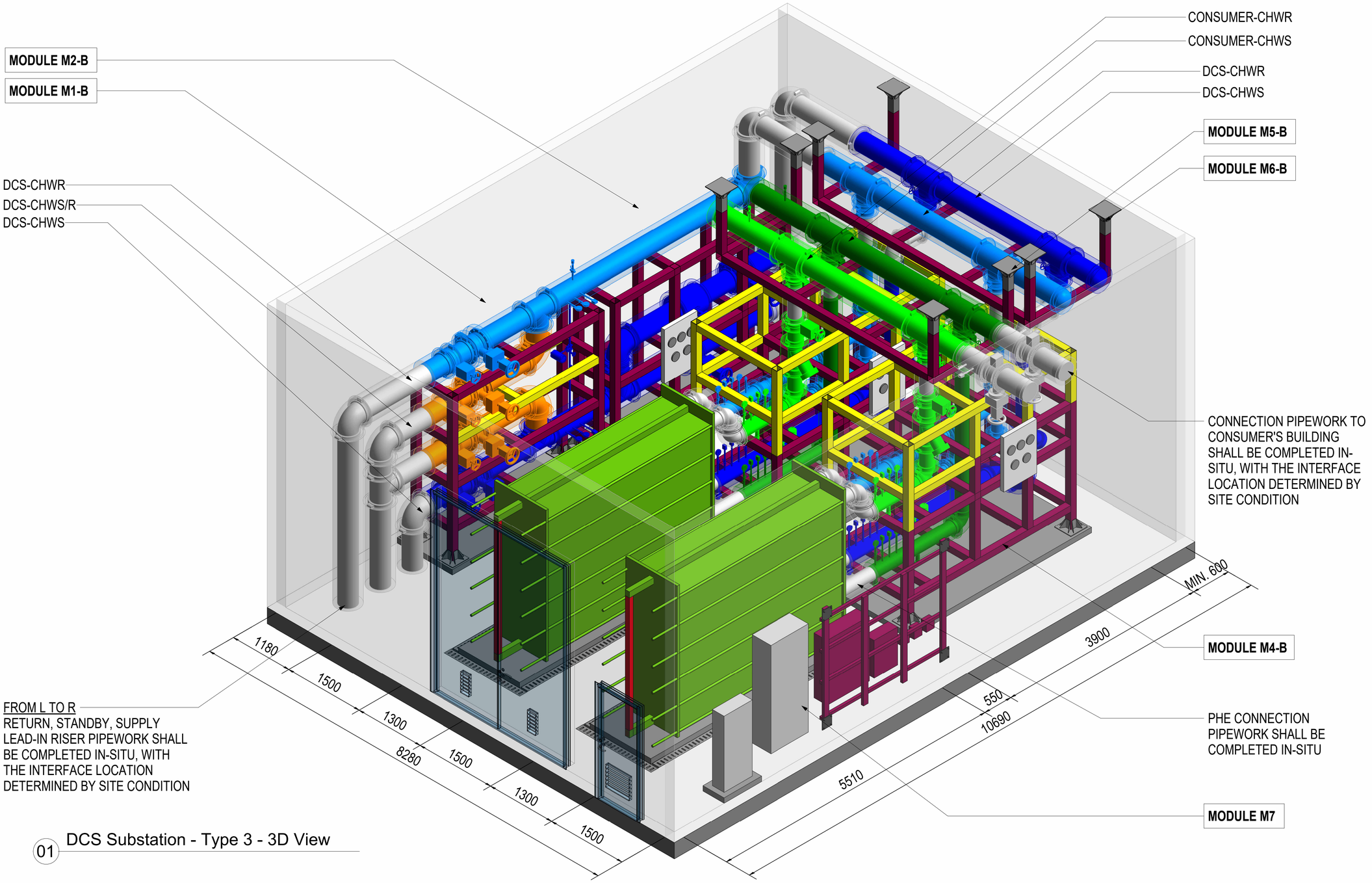
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Client: 機電工程署 EMSD

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Plot Date: 3/20/2026 4:16:05 PM

File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 3 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-B	3470 x 900 x 3700	2340	3920	Floor-mounted
M2-B	4750 X 900 x 3700	2430	4230	Floor-mounted
M4-B	3750 x 1840 x 3470	2800	3850	Floor-mounted
M5-B	1720 x 5140 x 905	1260	2610	Celling-mounted
M6-B	1720 X 5320 x 905	1280	2670	Celling-mounted
M7	2600 x 400 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 3 - SHEET 1 OF 4

Drawing No. SC/L/003-1

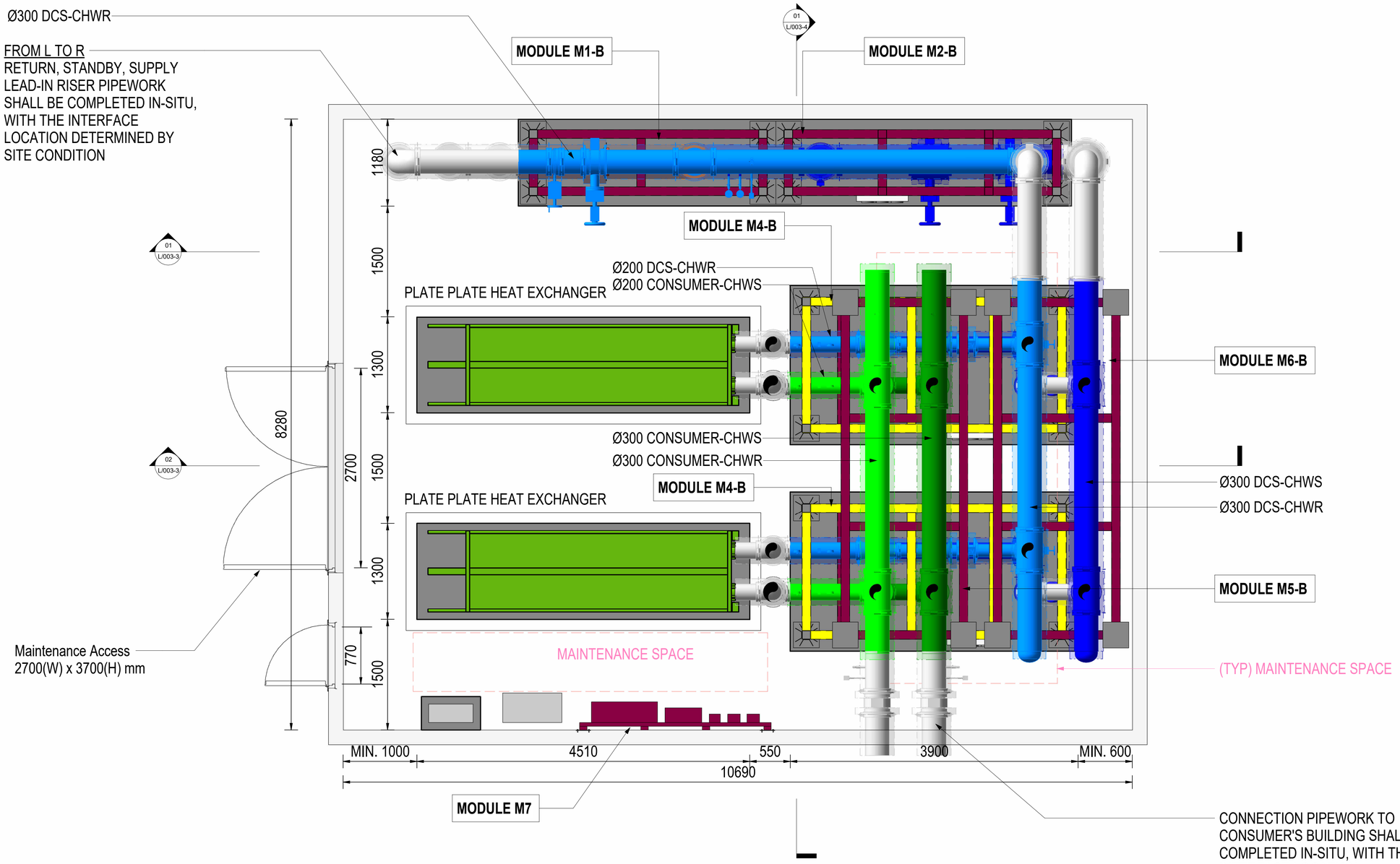
Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 3
1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

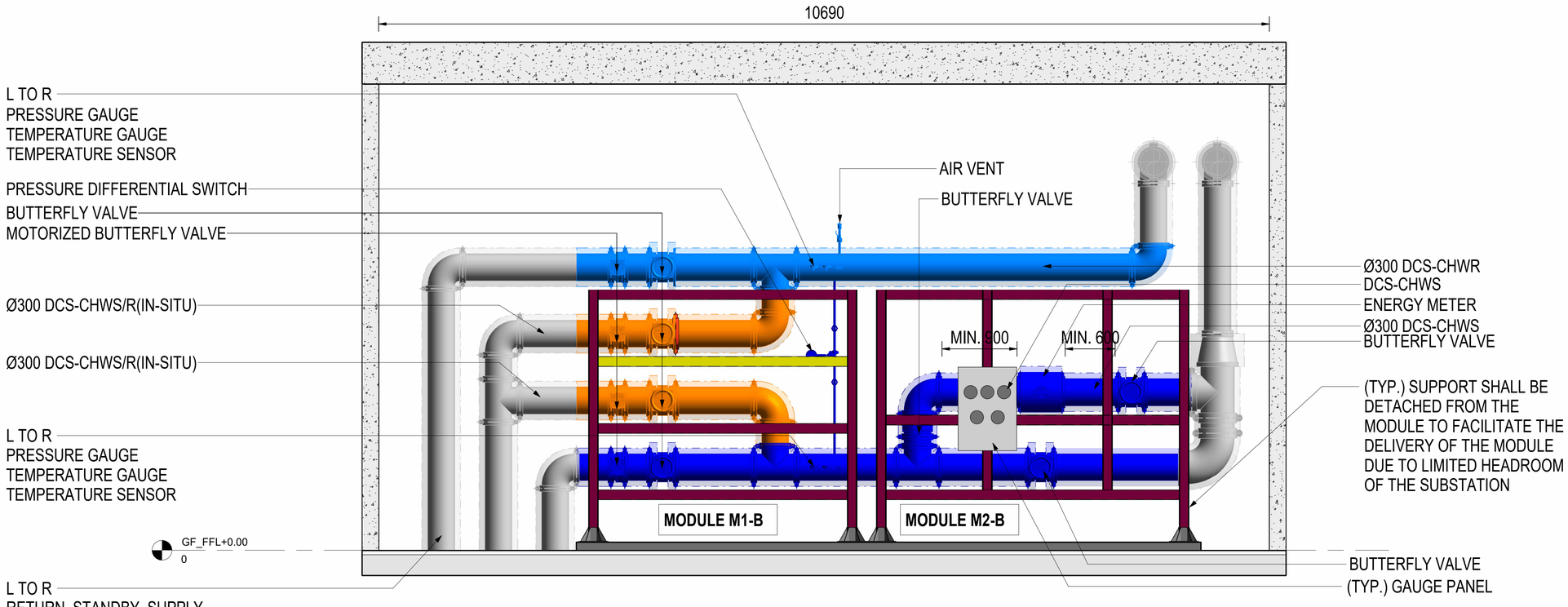
1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title
GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 3 - SHEET 2 OF 4

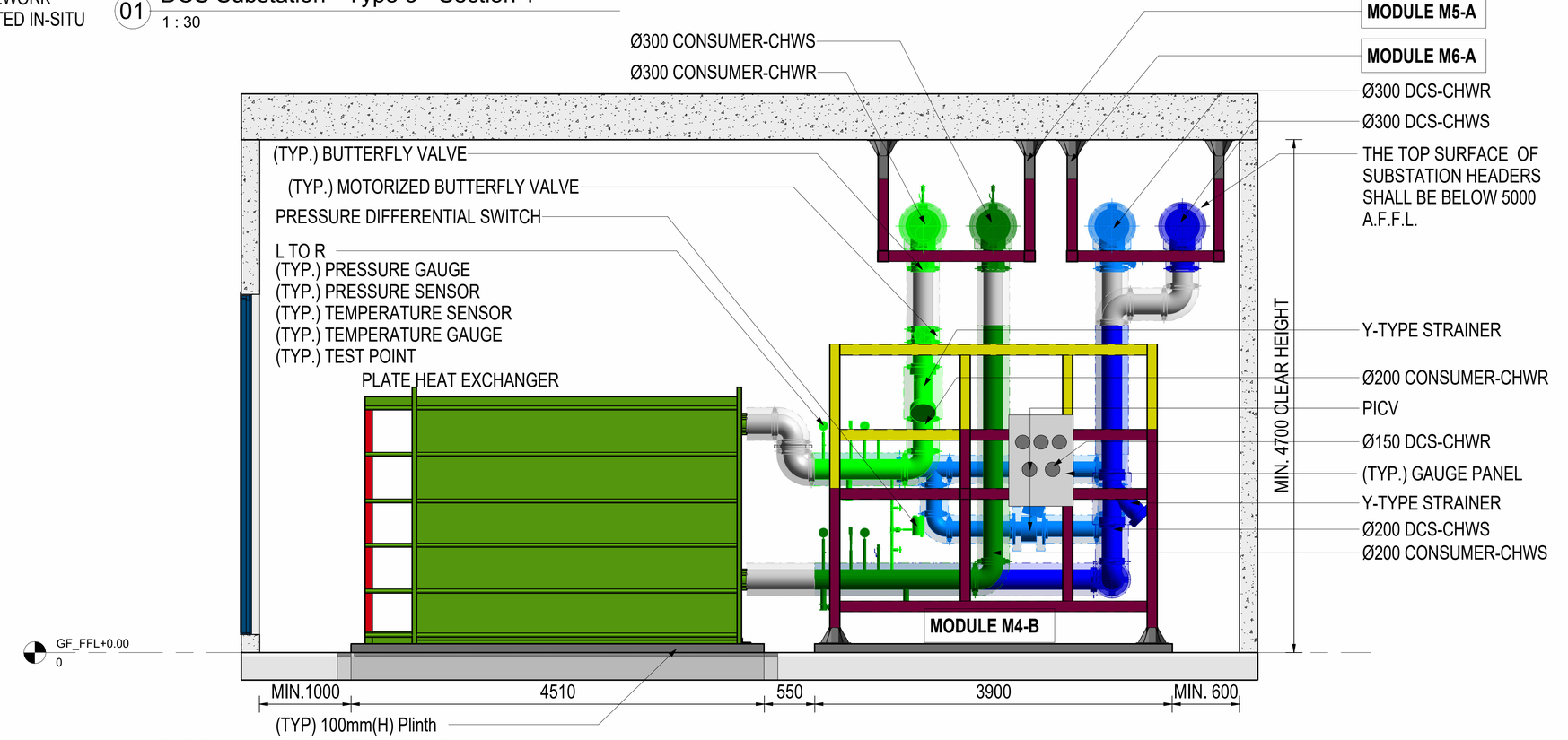
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Revision B
Scale A1 As indicated
Client 機電工程署 EMSD

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01 DCS Substation - Type 3 - Section 1

1 : 30



02 DCS Substation - Type 3 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 3 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/003-3	B

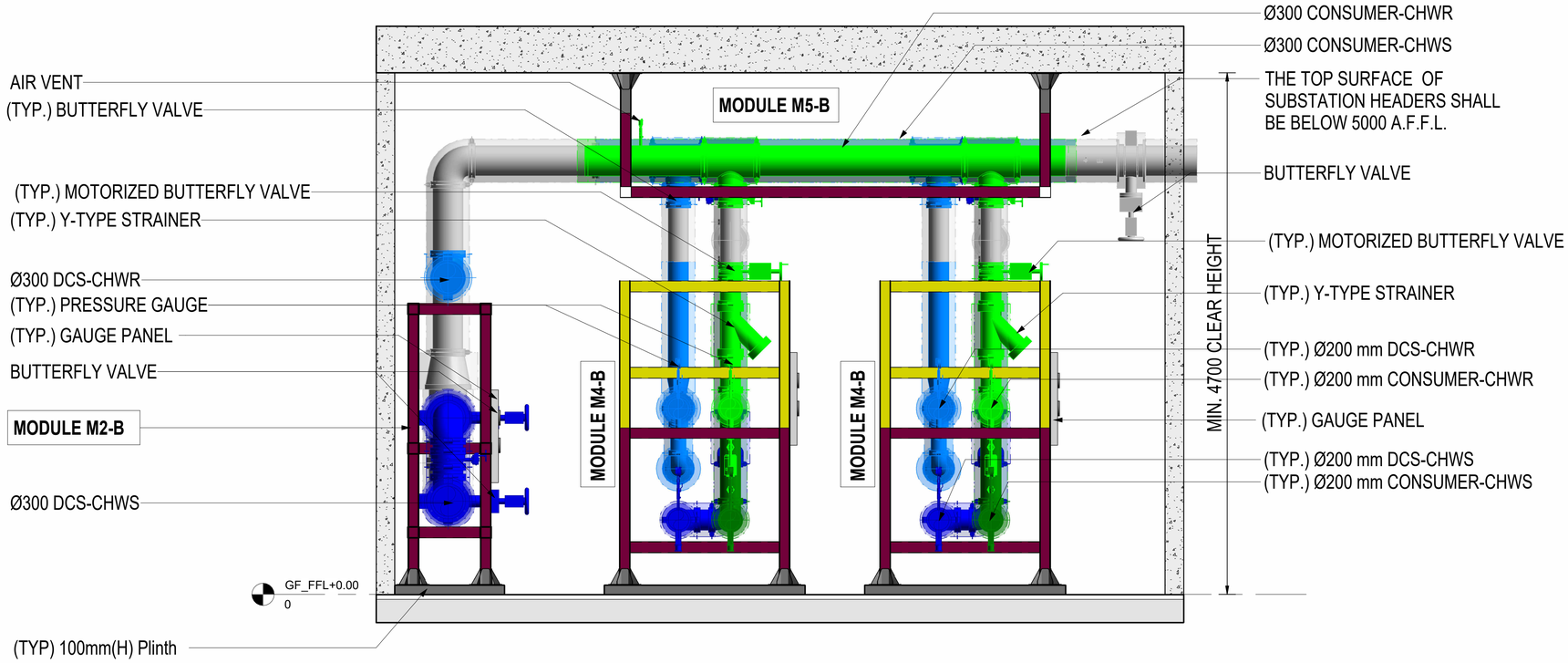
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Client: 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 3 - Section 3

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 3 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/003-4	B

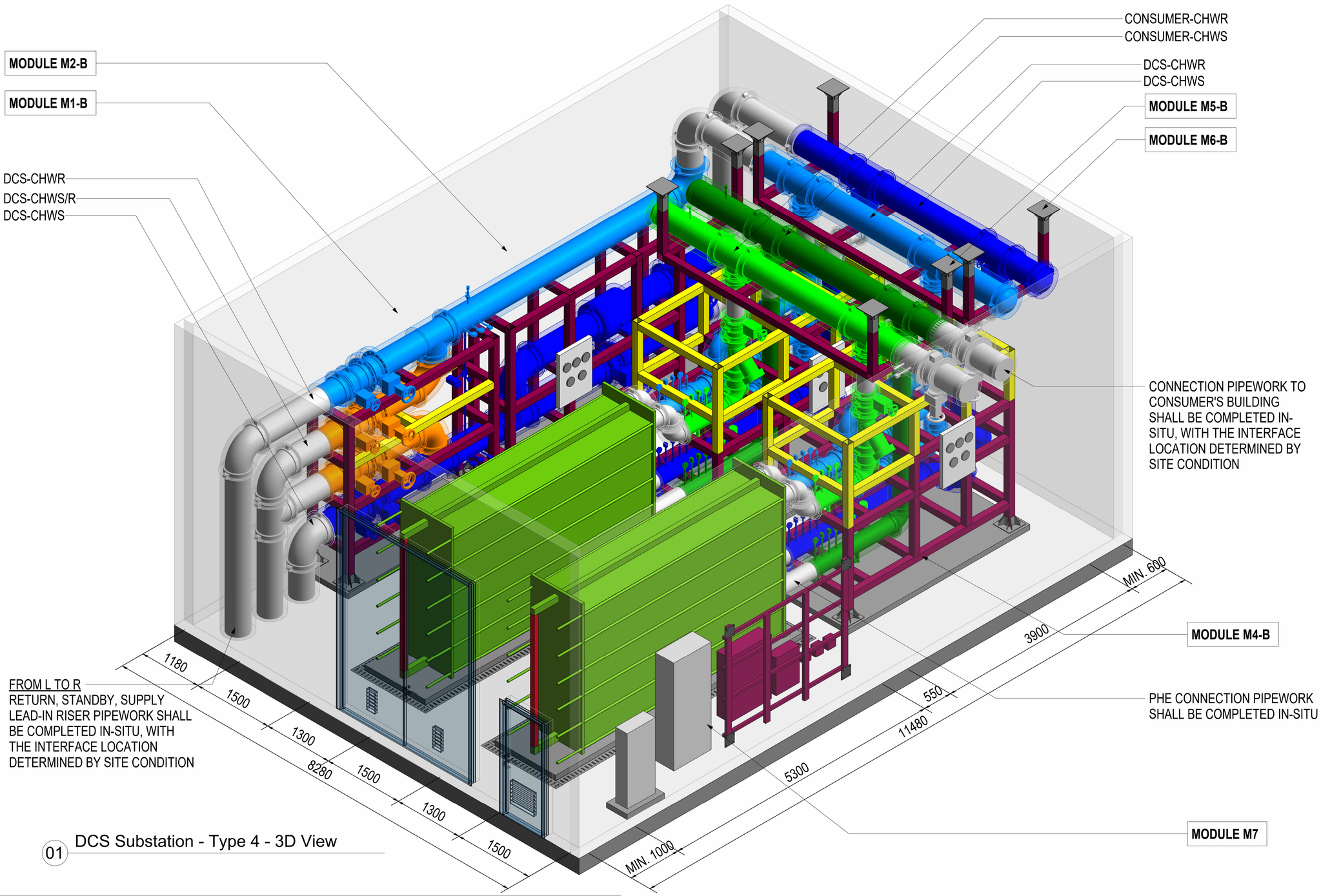
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Client: 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 4 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-B	3470 x 900 x 3700	2340	3920	Floor-mounted
M2-B	4750 X 900 x 3700	2430	4230	Floor-mounted
M4-B	3750 x 1840 x 3470	2800	3850	Floor-mounted
M5-B	1720 x 5140 x 905	1260	2610	Celling-mounted
M6-B	1720 X 5320 x 905	1280	2670	Celling-mounted
M7	2600 x 400 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 1 OF 4

Drawing No. SC/L/004-1

Revision B

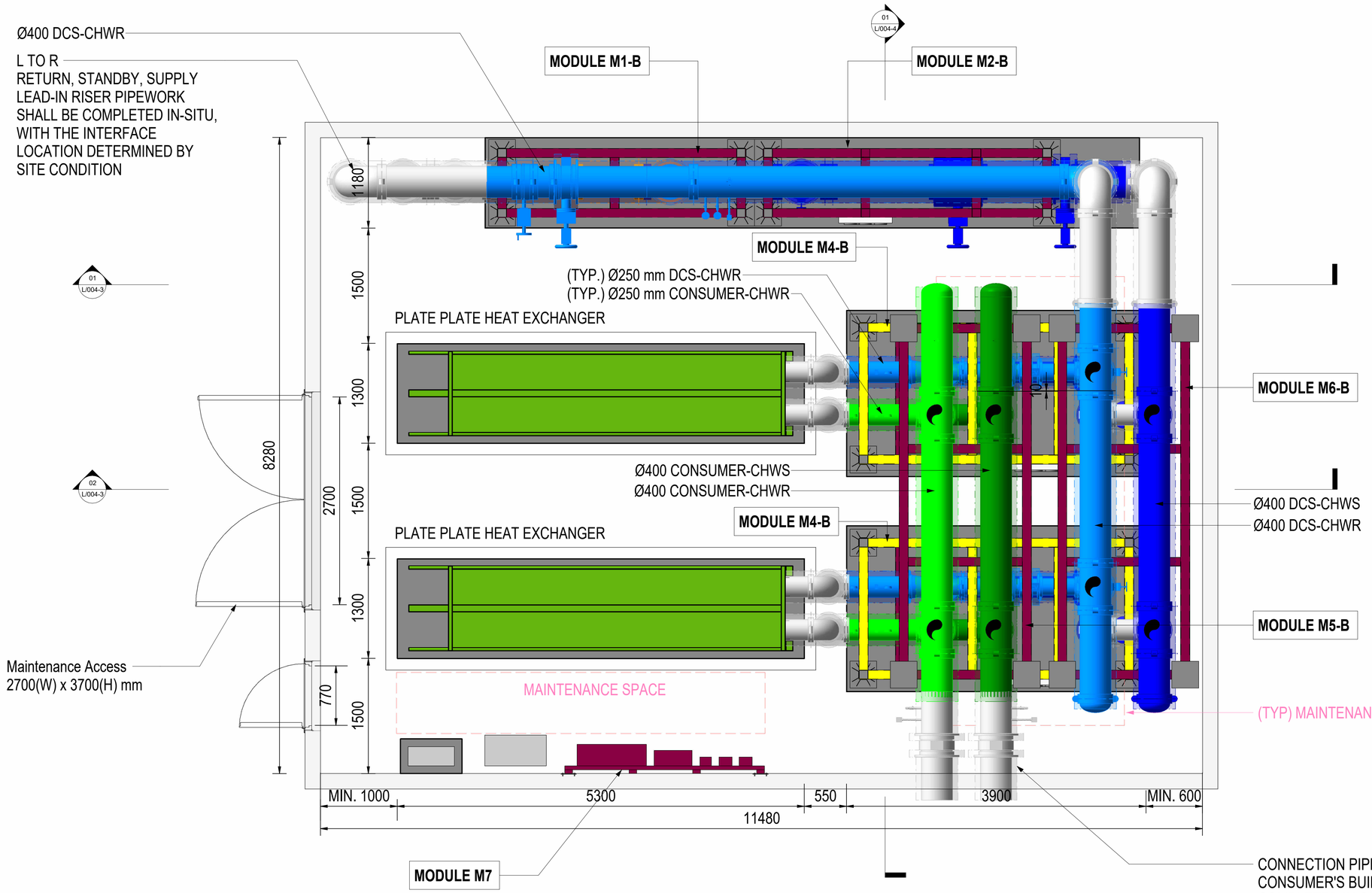
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Client 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 4

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 4 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/004-2	B

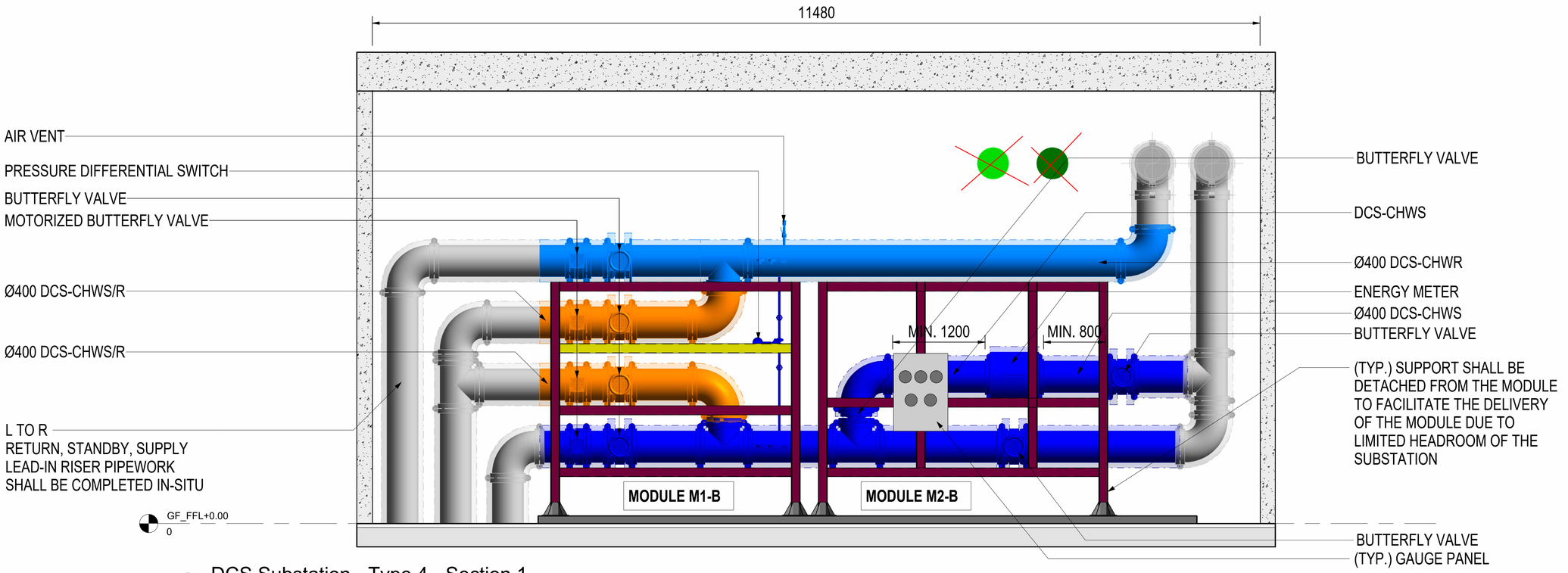
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Client: 機電工程署 EMSD

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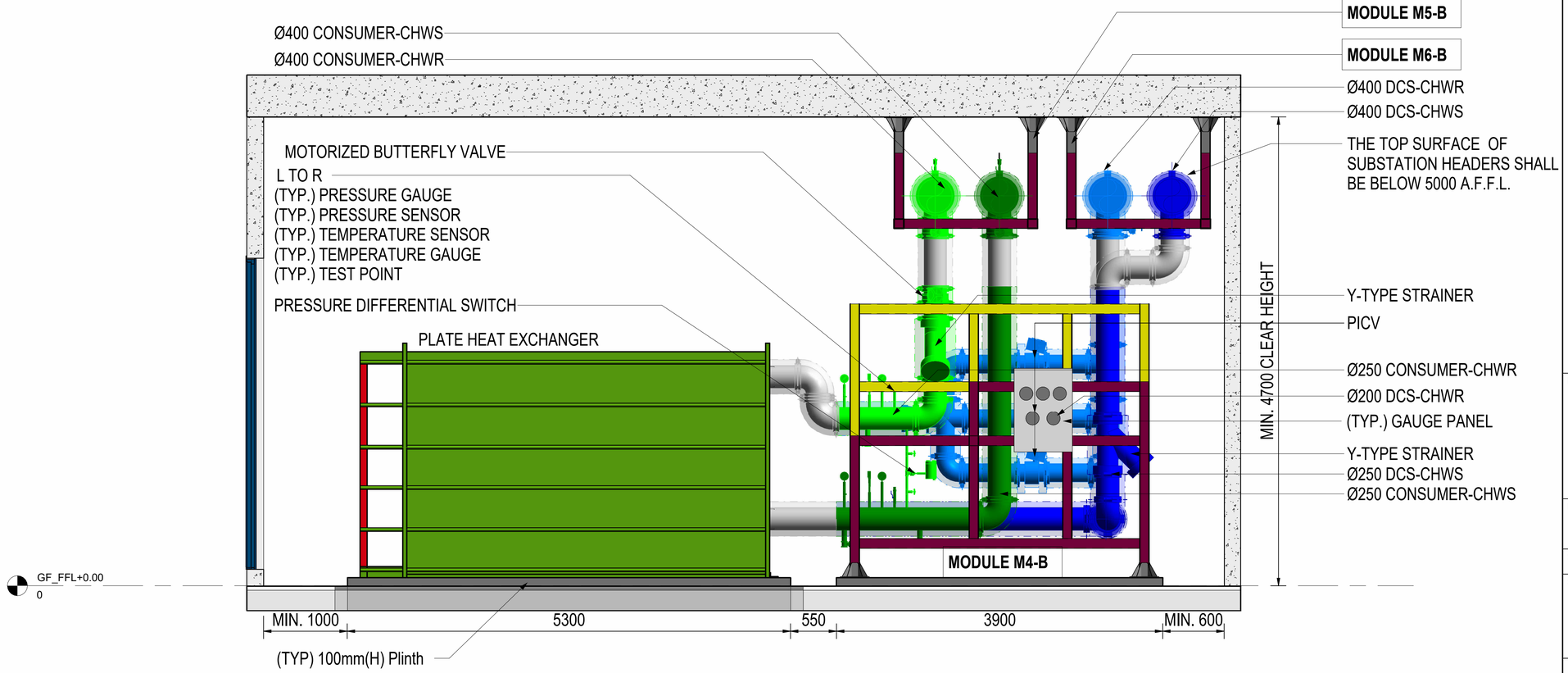
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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 4 - Section 1

1 : 30



02 DCS Substation - Type 4 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 4 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/004-3	B

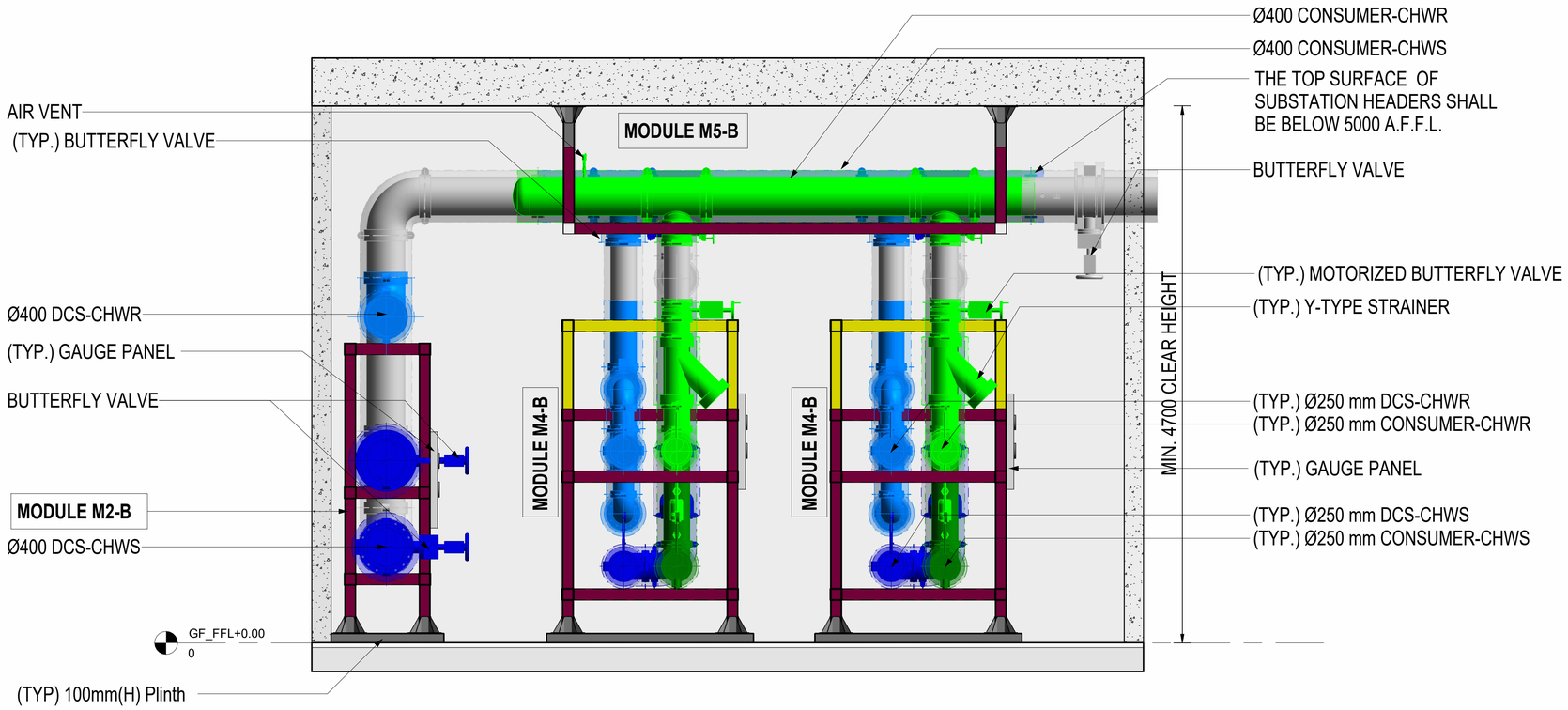
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 4 - Section 3

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
TYPE 4 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/004-4	B

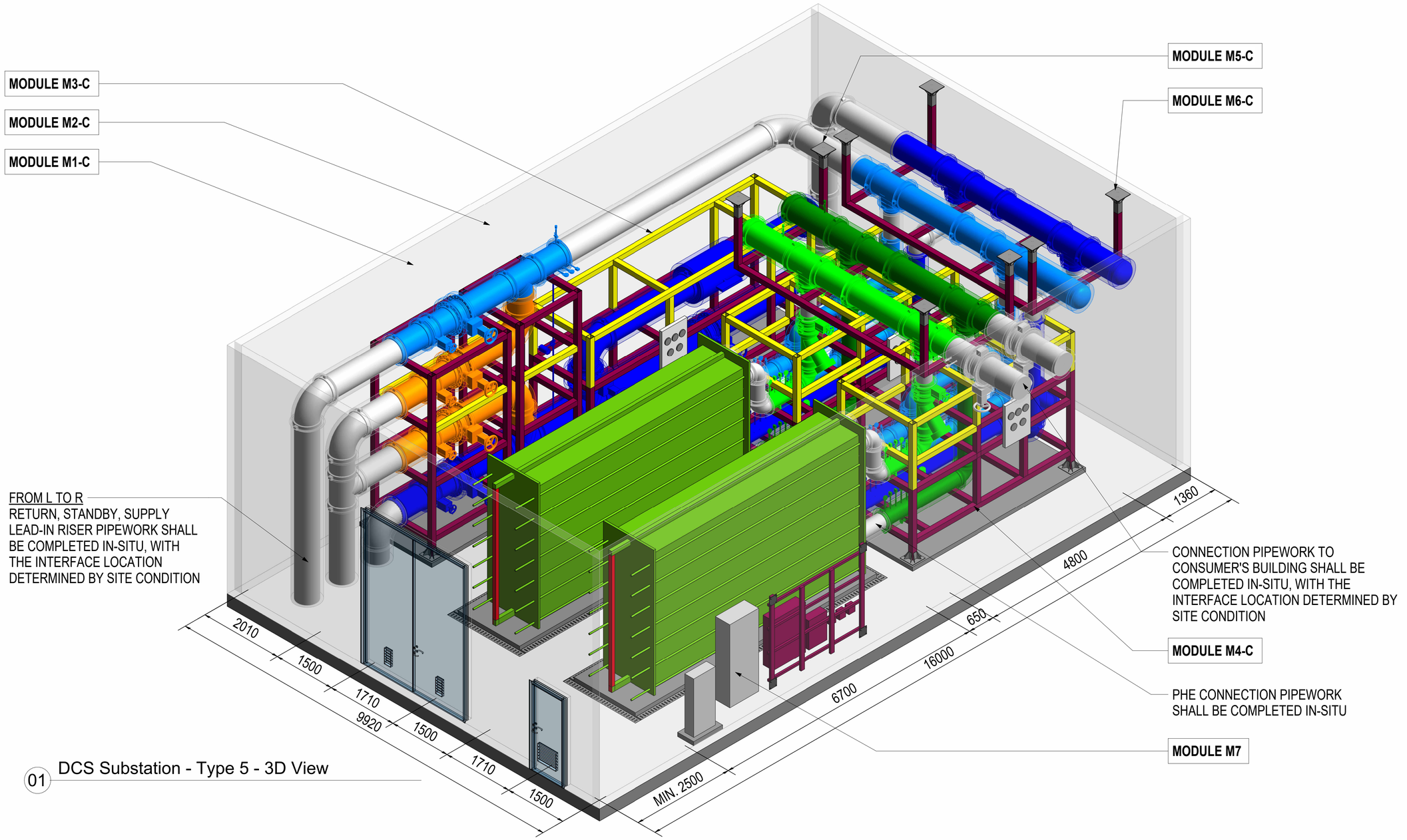
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Client: 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 5 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-C	2520 x 1830 x 5280	6050	9910	Floor-mounted
M2-C	2050 x 1700 x 5300	2680	5480	Floor-mounted
M3-C	7240 x 2000 x 3050	6390	11880	Floor-mounted
M4-C	4830 x 2100 x 3260	4730	6500	Floor-mounted
M5-C	2490 x 6020 x 1420	3410	8090	Celling-mounted
M6-C	2490 x 6370 x 1420	3410	8090	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 1 OF 4

Drawing No. SC/L/005-1

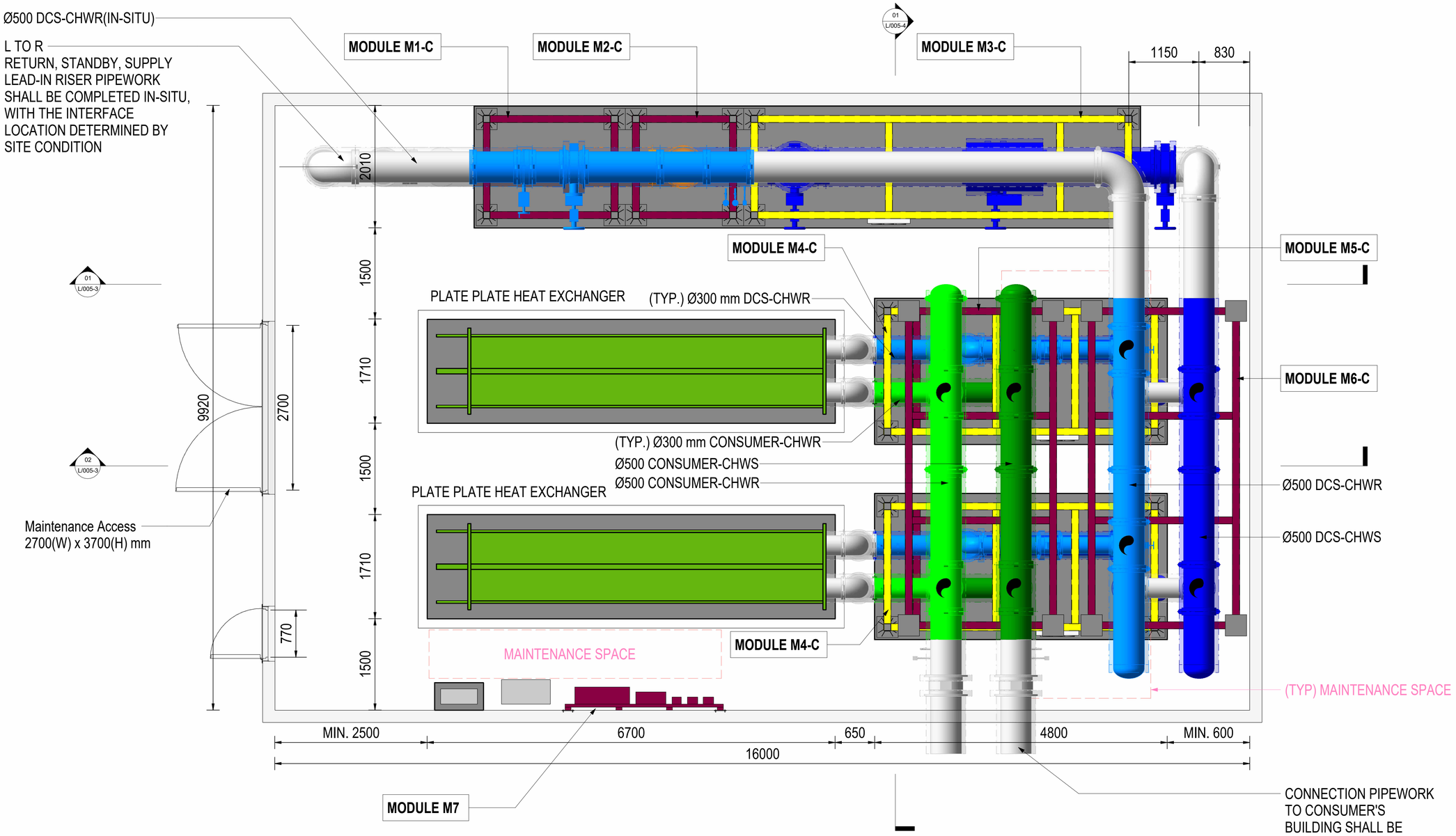
Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

Plot Date: 3/20/2026 4:16:43 PM

File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 5

1 : 35

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/005-2	B

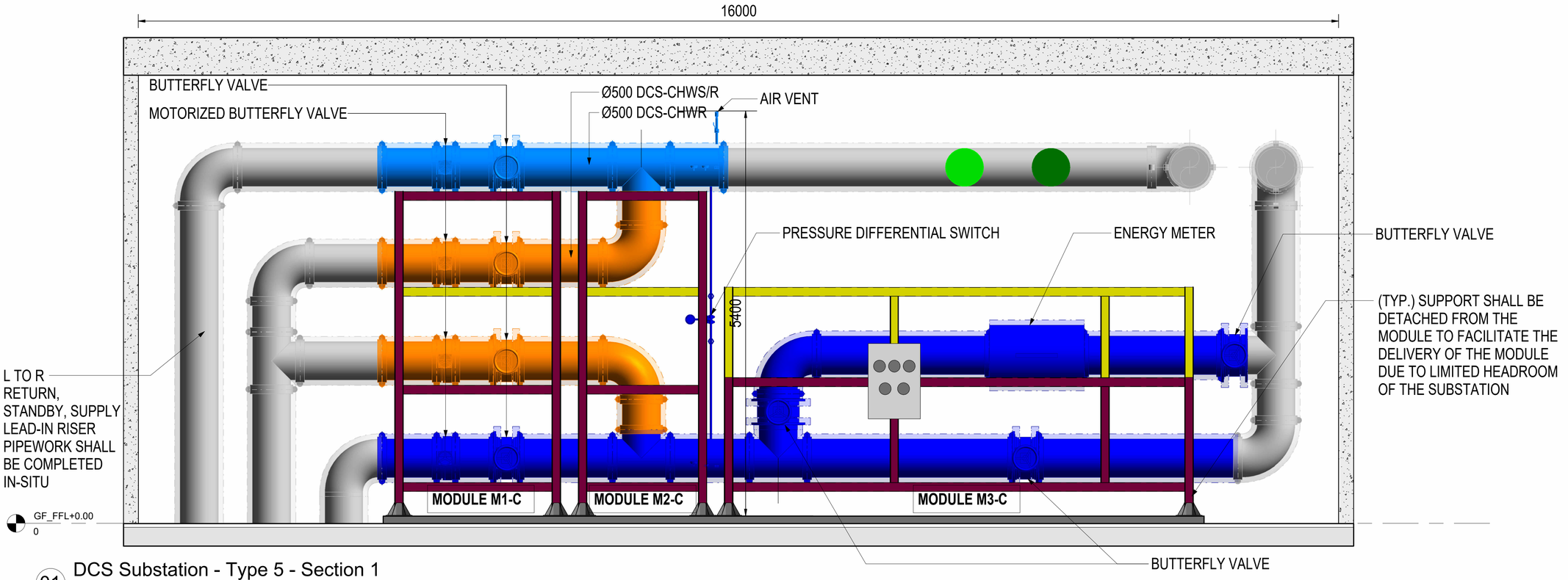
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Client: 機電工程署 EMSD

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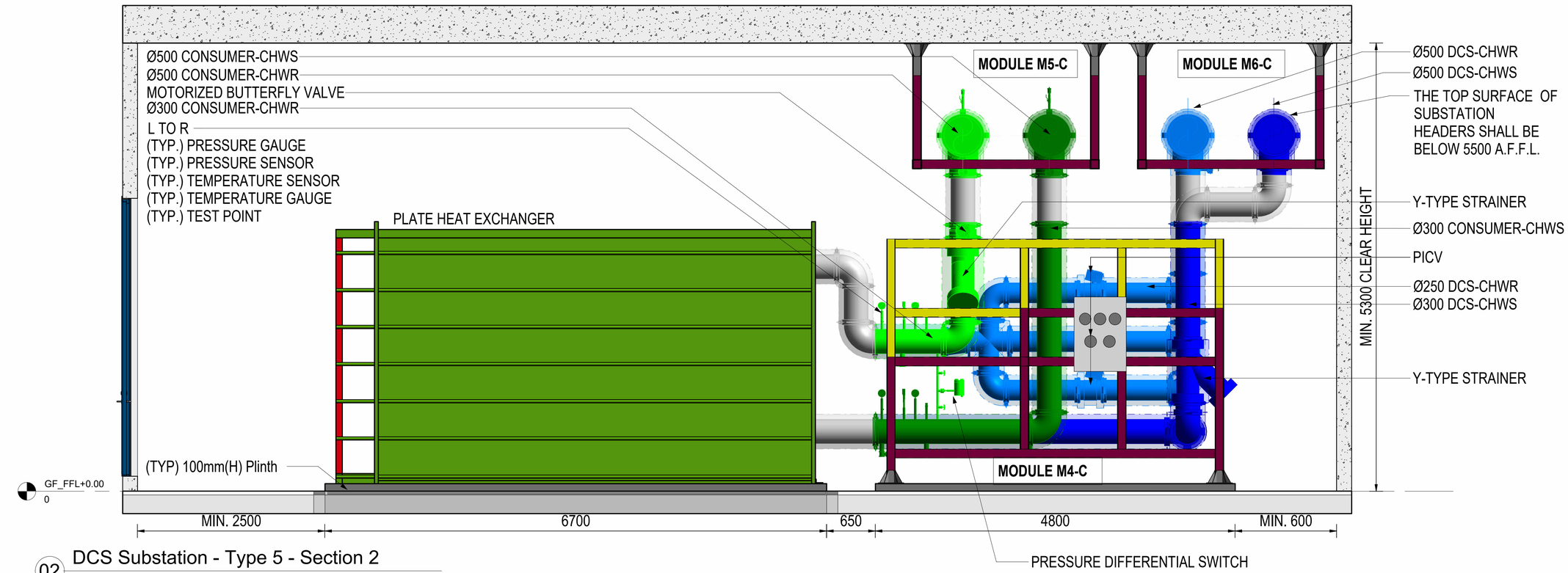
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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 5 - Section 1

1 : 30



02 DCS Substation - Type 5 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/005-3	B

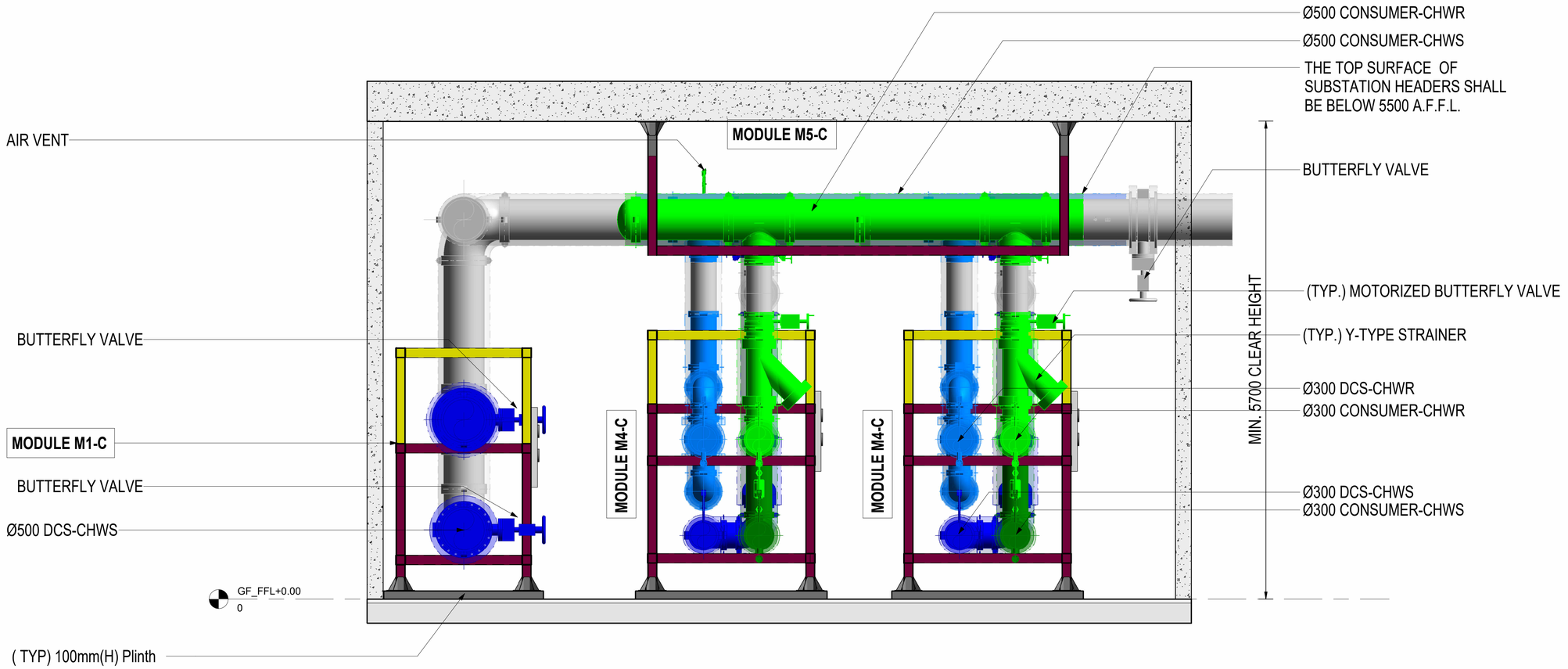
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 5 - Section 3
1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 5 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/005-4	B

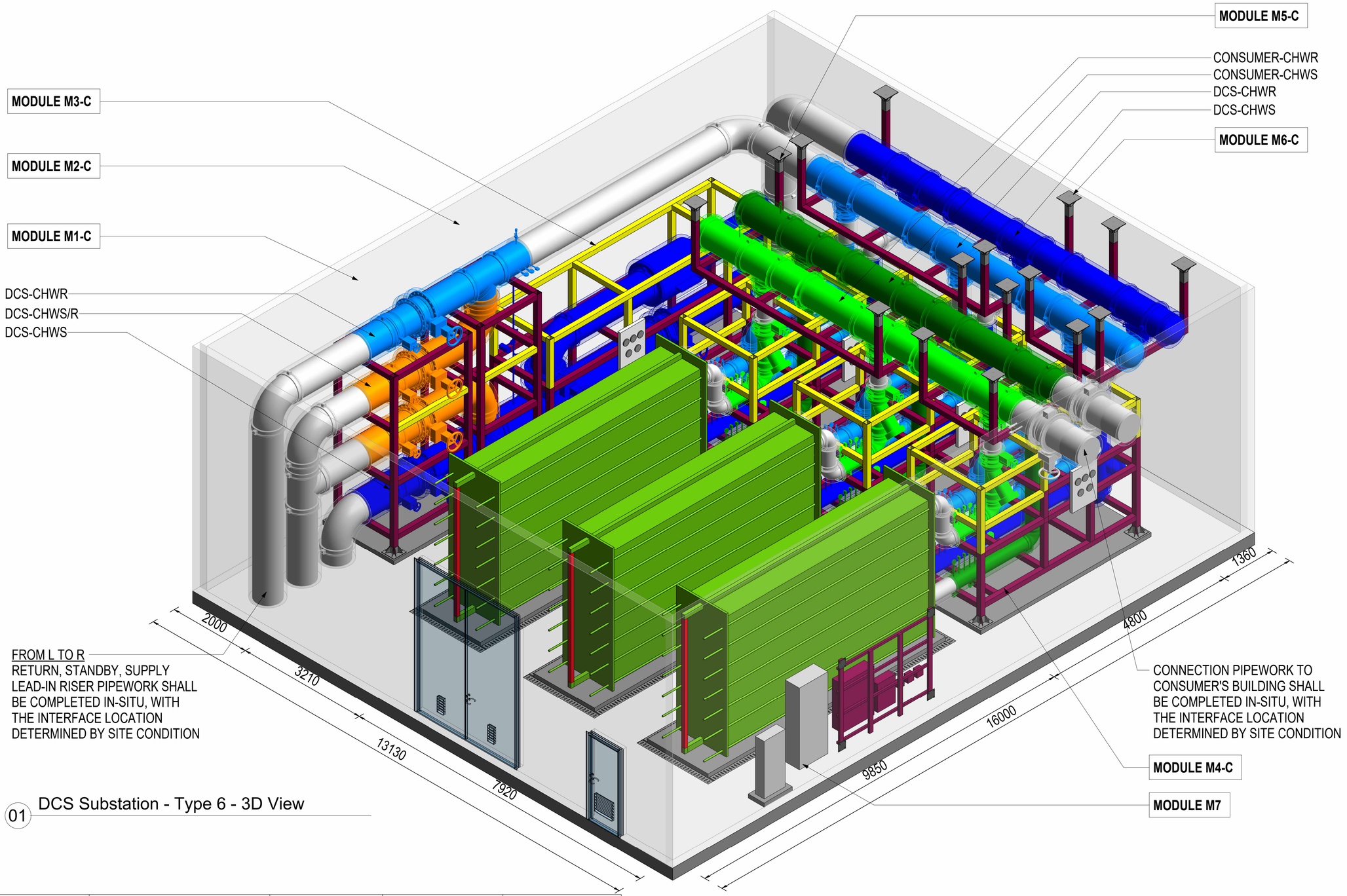
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 6 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-C	2520 x 1830 x 5280	6050	9910	Floor-mounted
M2-C	2050 x 1700 x 5300	2680	5480	Floor-mounted
M3-C	7240 x 2000 x 3050	6390	11880	Floor-mounted
M4-C	4830 x 2100 x 3260	4730	6500	Floor-mounted
M5-C	2490 x 6020 x 1420	3410	8090	Celling-mounted
M6-C	2490 x 6370 x 1420	3410	8090	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 1 OF 4

Drawing No. SC/L/006-1

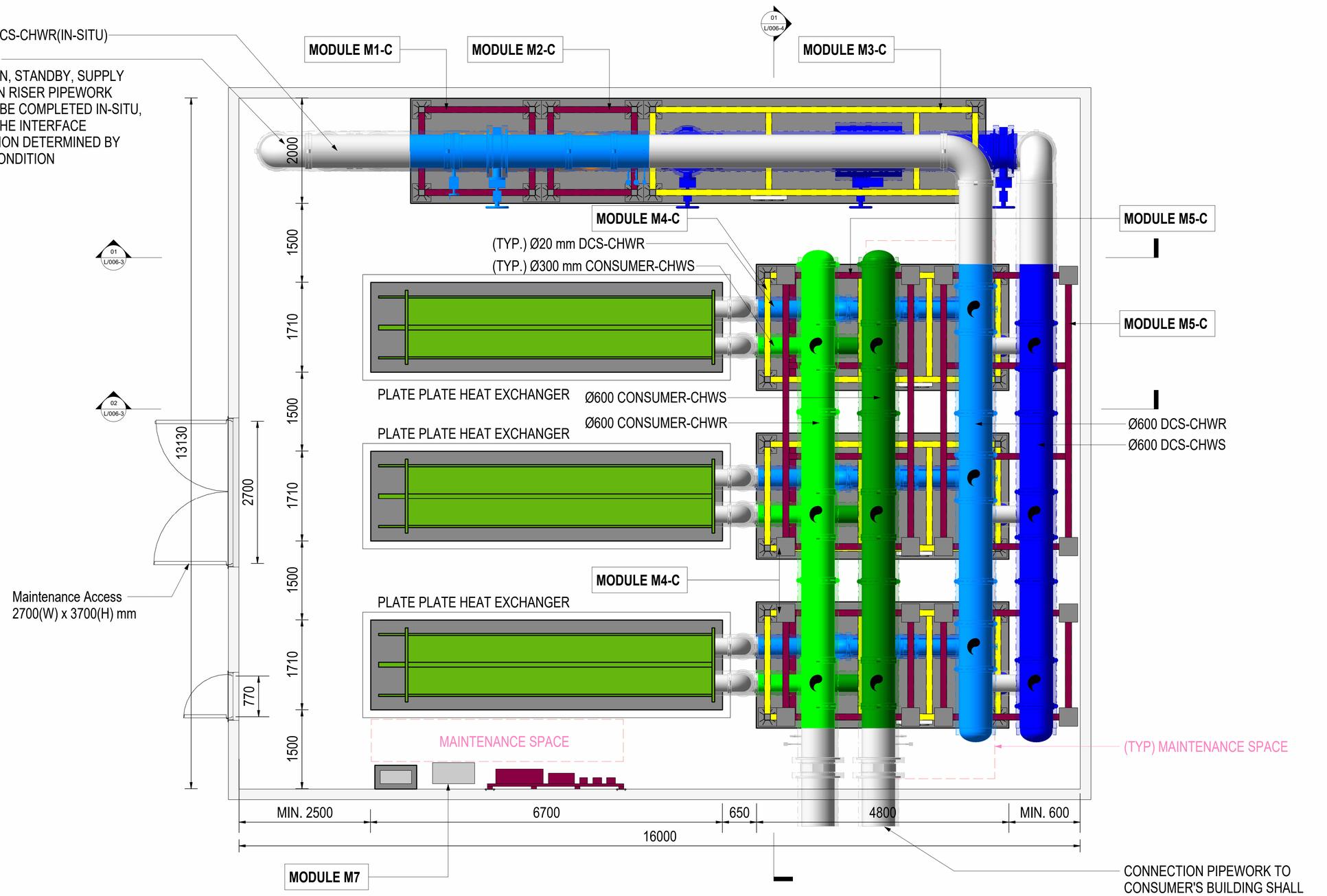
Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 6
1 : 40

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

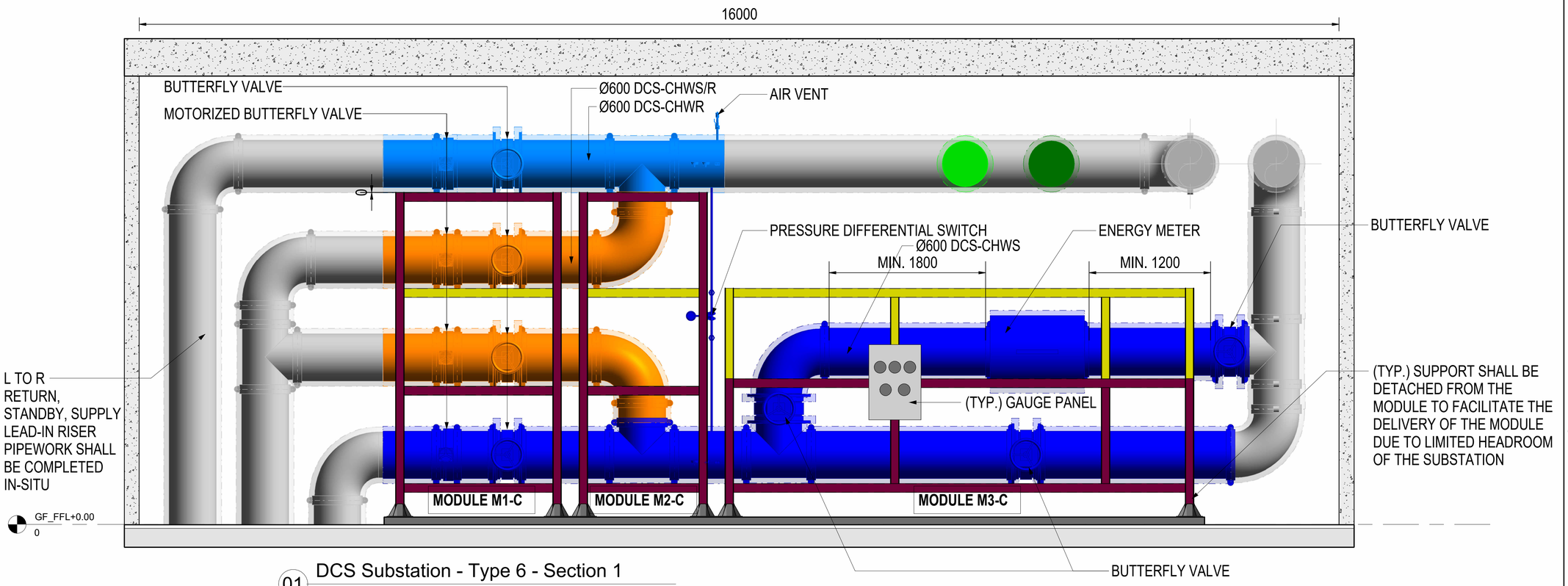
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2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION
TYPE 6 - SHEET 2 OF 4

Drawing No. SC/L/006-2
Revision B
Scale A1 As indicated
Client 機電工程署 EMSD

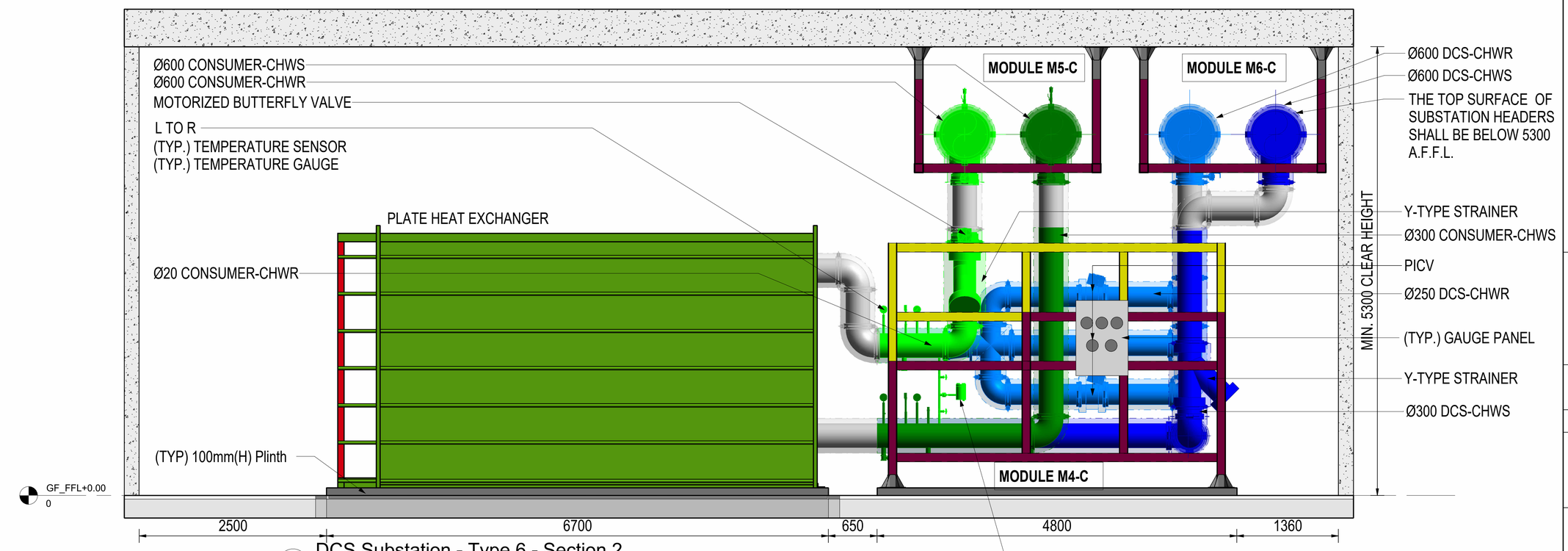
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01 DCS Substation - Type 6 - Section 1

1 : 30



02 DCS Substation - Type 6 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/006-3	B

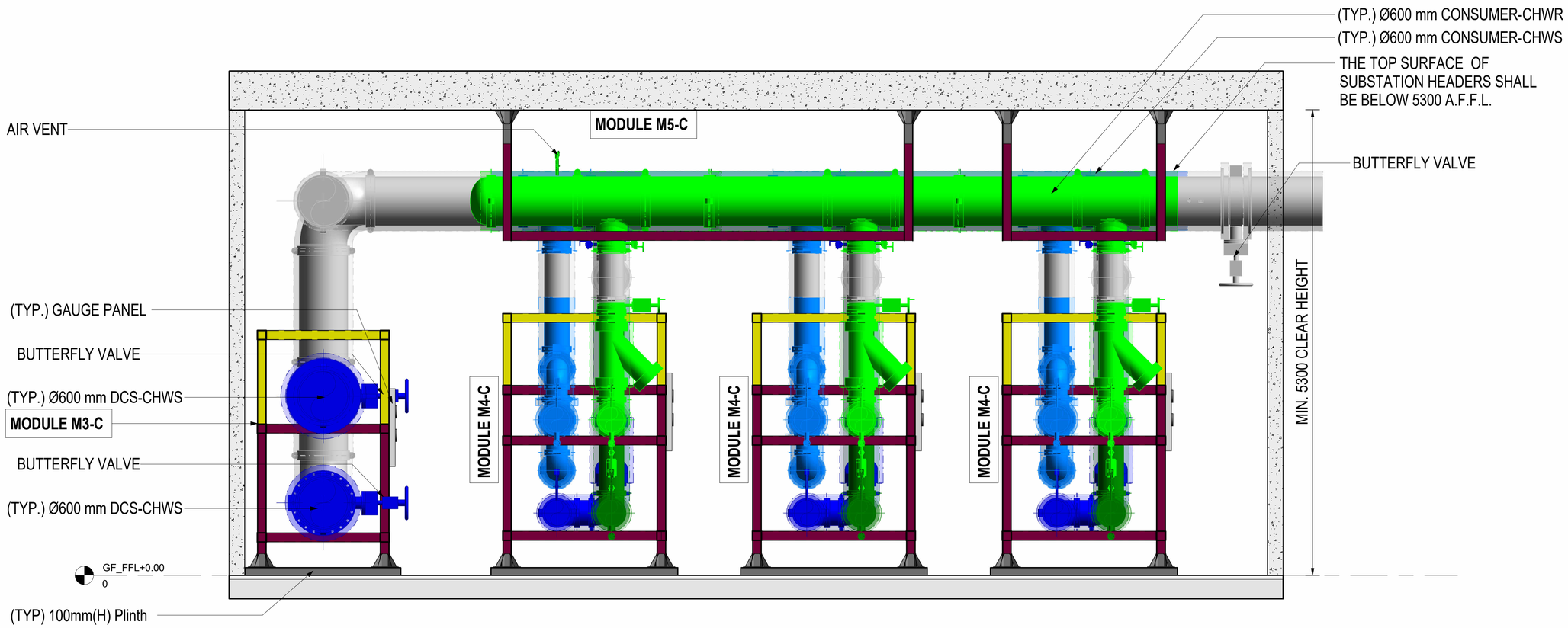
Scale: A1 As indicated

Client: 機電工程署 EMSD

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01 DCS Substation - Type 6 - Section 3
1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 6 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/006-4	B

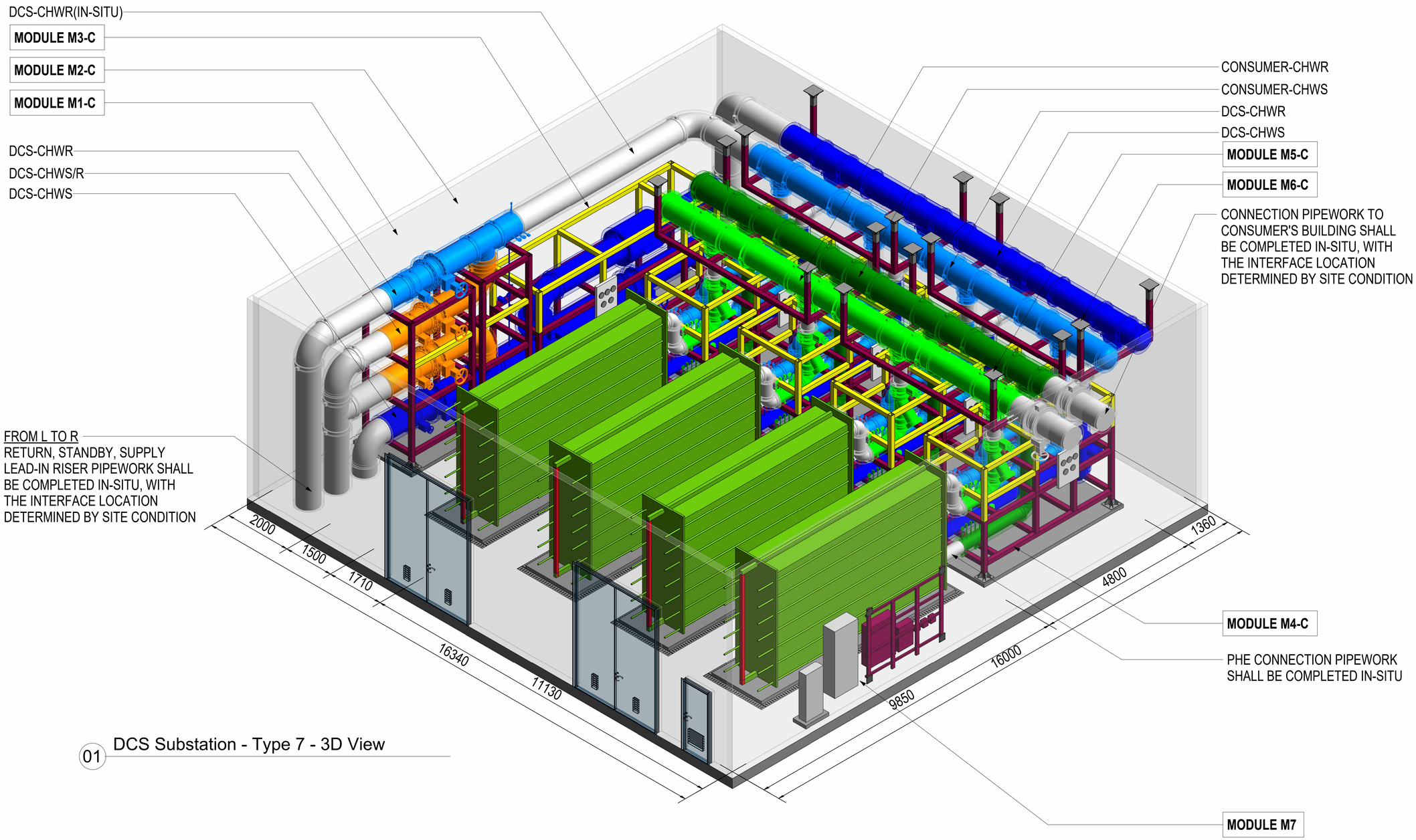
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Client: 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 7 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-C	2520 x 1830 x 5280	6050	9910	Floor-mounted
M2-C	2050 x 1700 x 5300	2680	5480	Floor-mounted
M3-C	7240 x 2000 x 3050	6390	11880	Floor-mounted
M4-C	4830 x 2100 x 3260	4730	6500	Floor-mounted
M5-C	2490 x 6020 x 1420	3410	8090	Celling-mounted
M6-C	2490 x 6370 x 1420	3410	8090	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 1 OF 4

Drawing No.	Revision
SC/L/007-1	B

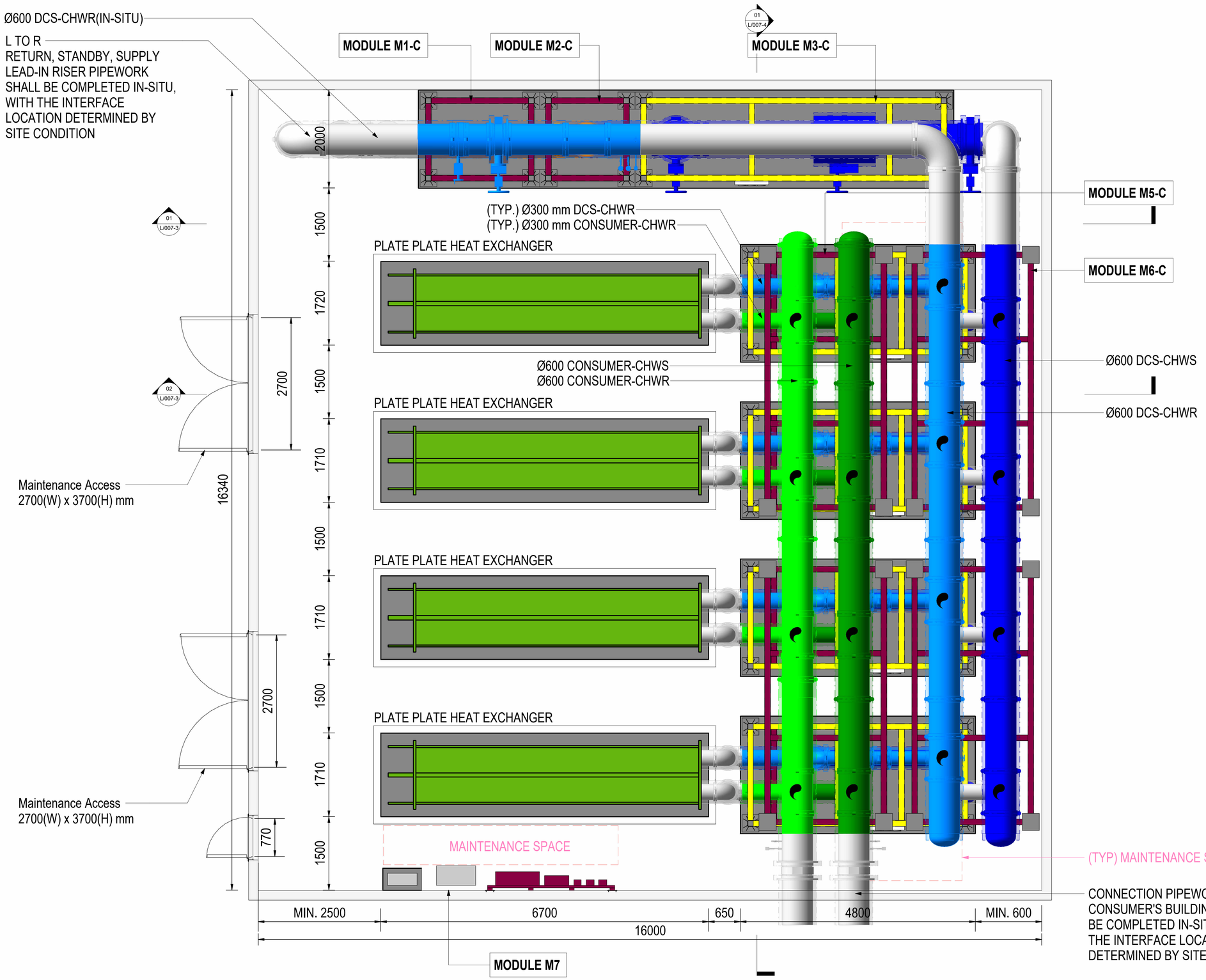
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Client: 機電工程署 EMSD

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01 DCS Substation Layout - Type 7
1 : 40

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION
TYPE 7 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/007-2	B

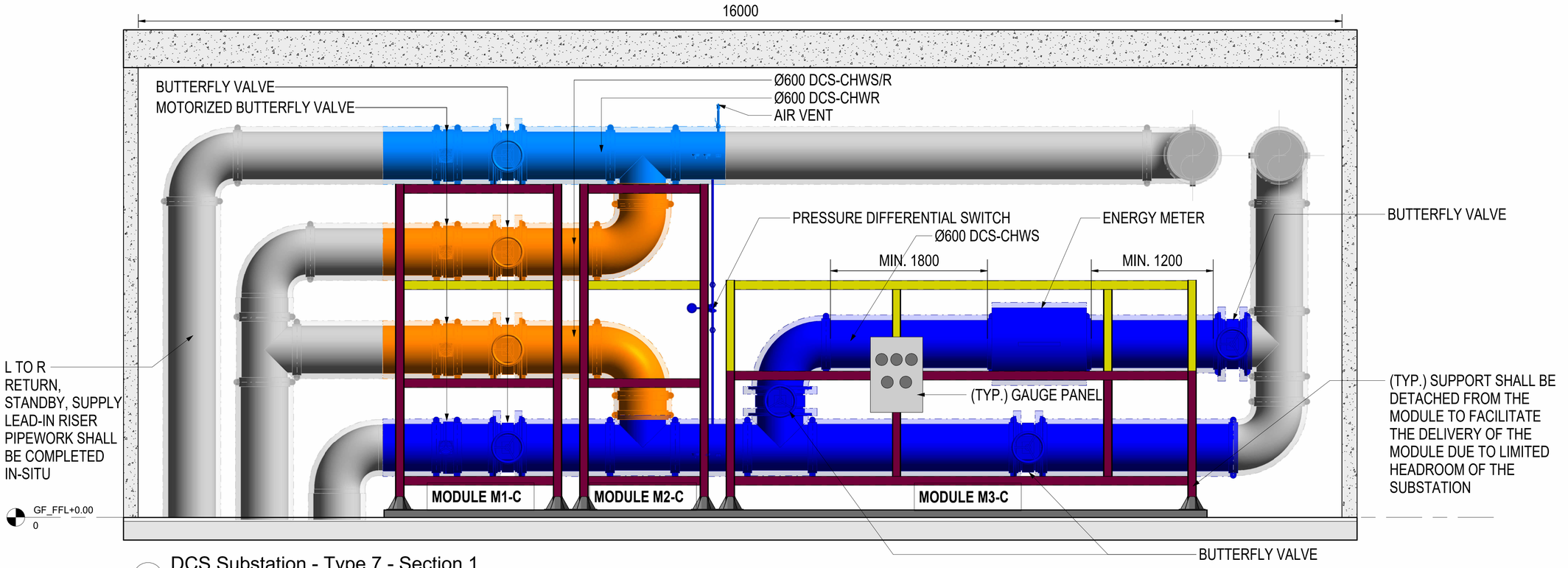
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Client: 機電工程署 EMSD

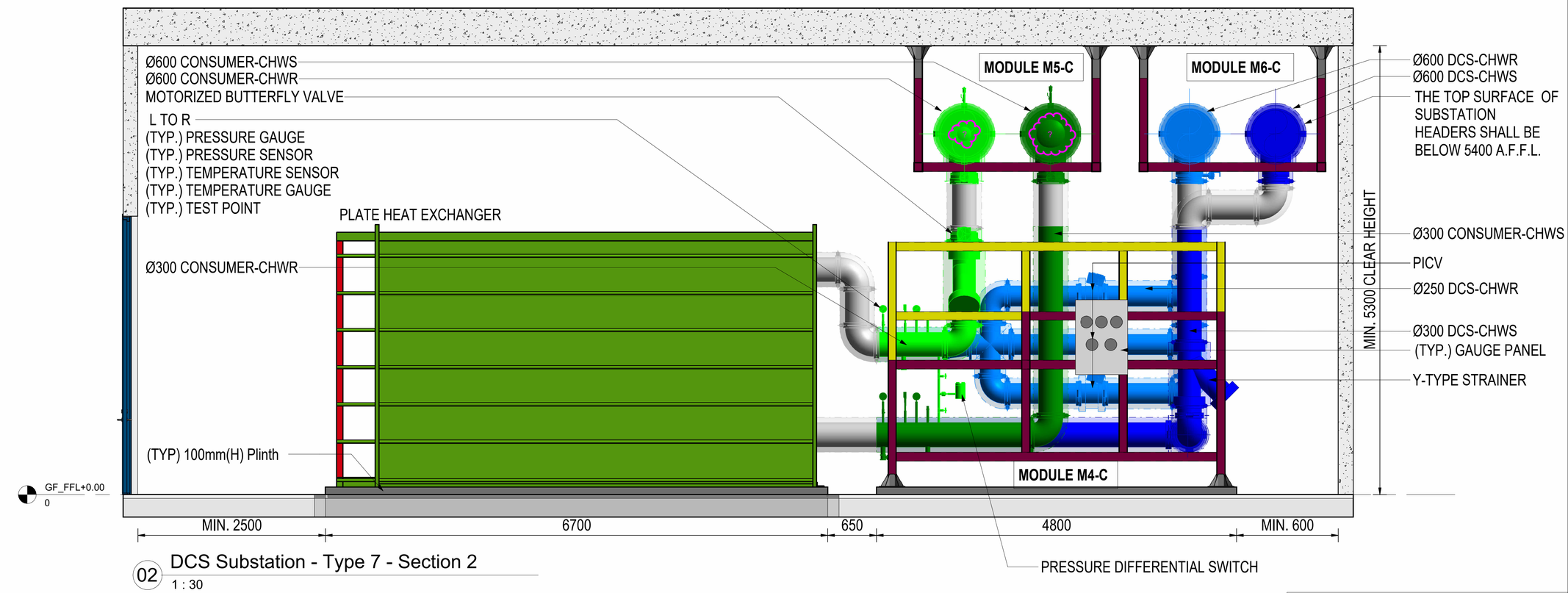
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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 7 - Section 1
1 : 30



02 DCS Substation - Type 7 - Section 2
1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

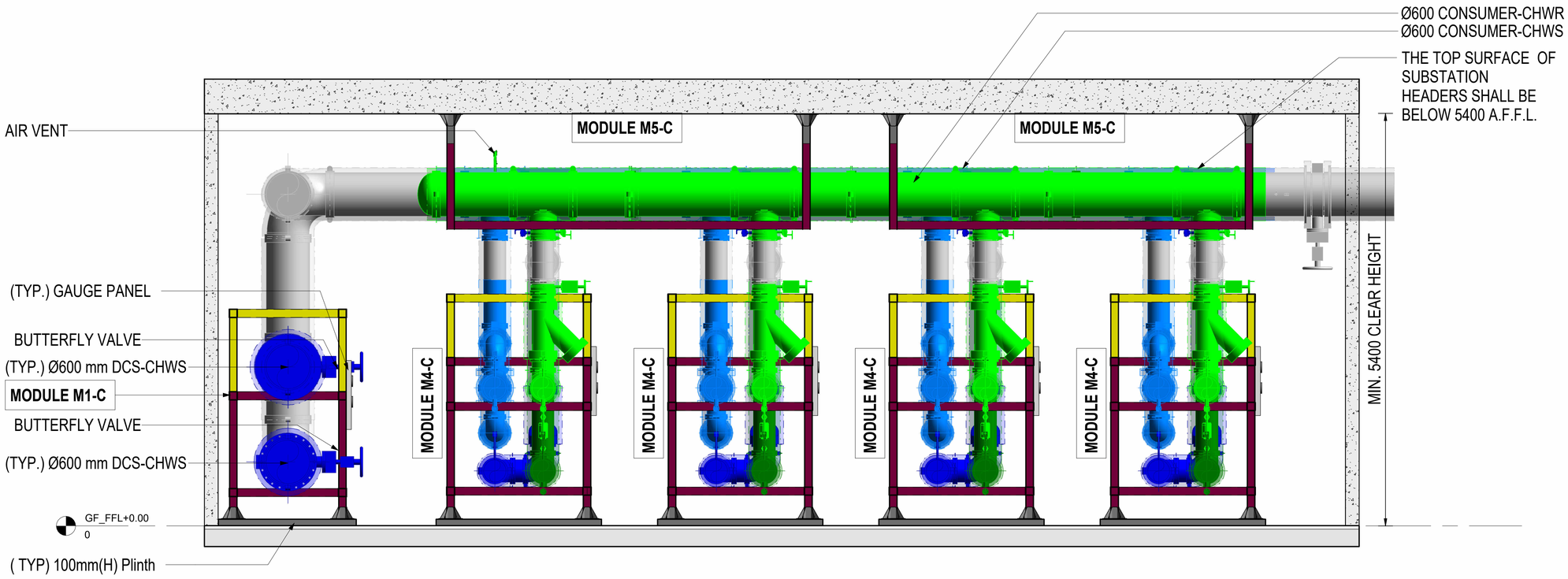
1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION
TYPE 7 - SHEET 3 OF 4

Drawing No. SC/L/007-3
Revision B
Scale A1 As indicated
Client 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 7 - Section 3

1 : 35

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 7 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/007-4	B

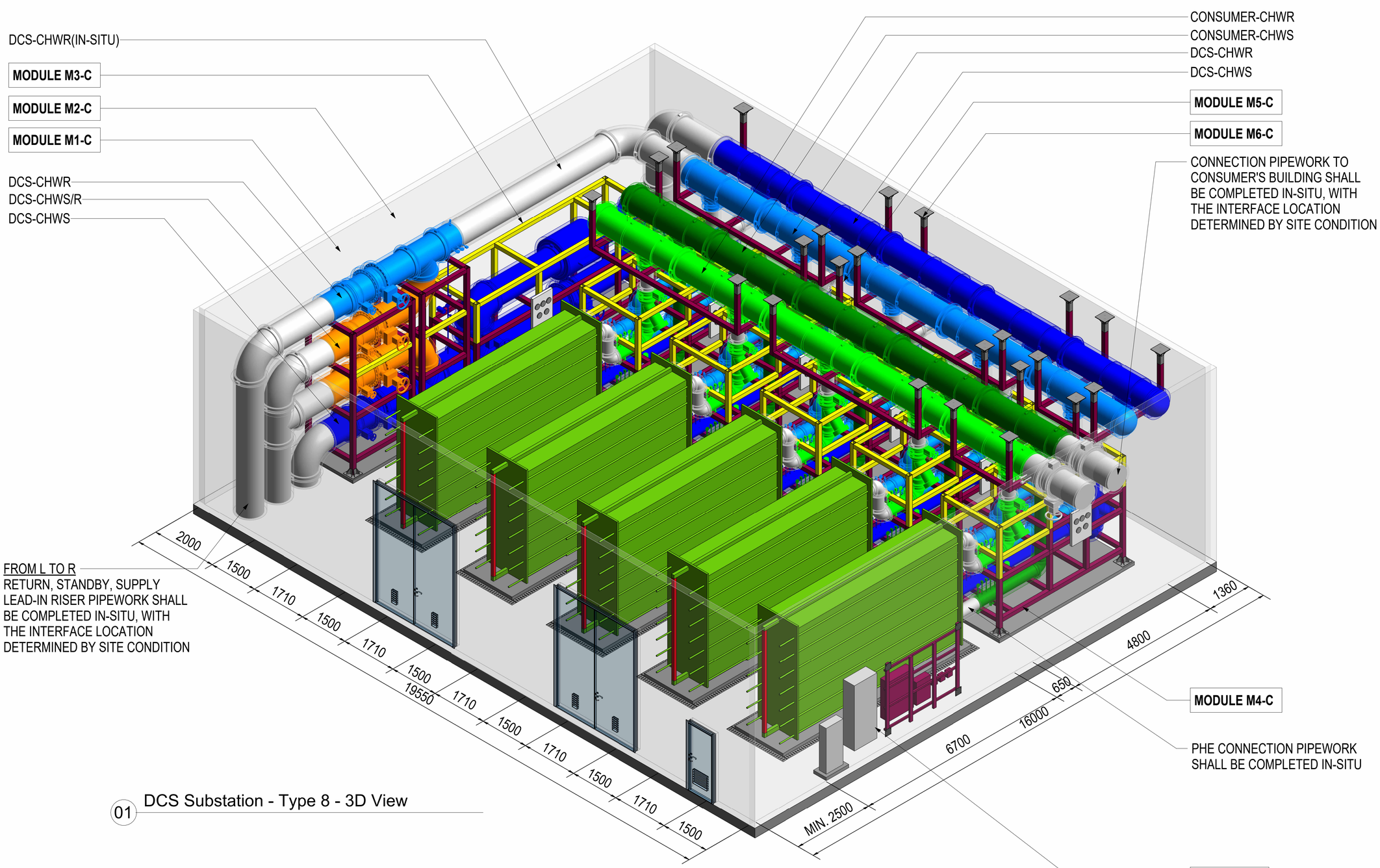
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 8 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-C	2520 x 1830 x 5280	6050	9910	Floor-mounted
M2-C	2050 x 1700 x 5300	2680	5480	Floor-mounted
M3-C	7240 x 2000 x 3050	6390	11880	Floor-mounted
M4-C	4830 x 2100 x 3260	4730	6500	Floor-mounted
M5-C	2490 x 6020 x 1420	3410	8090	Celling-mounted
M6-C	2490 x 6370 x 1420	3410	8090	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 1 OF 4

Drawing No. SC/L/008-1

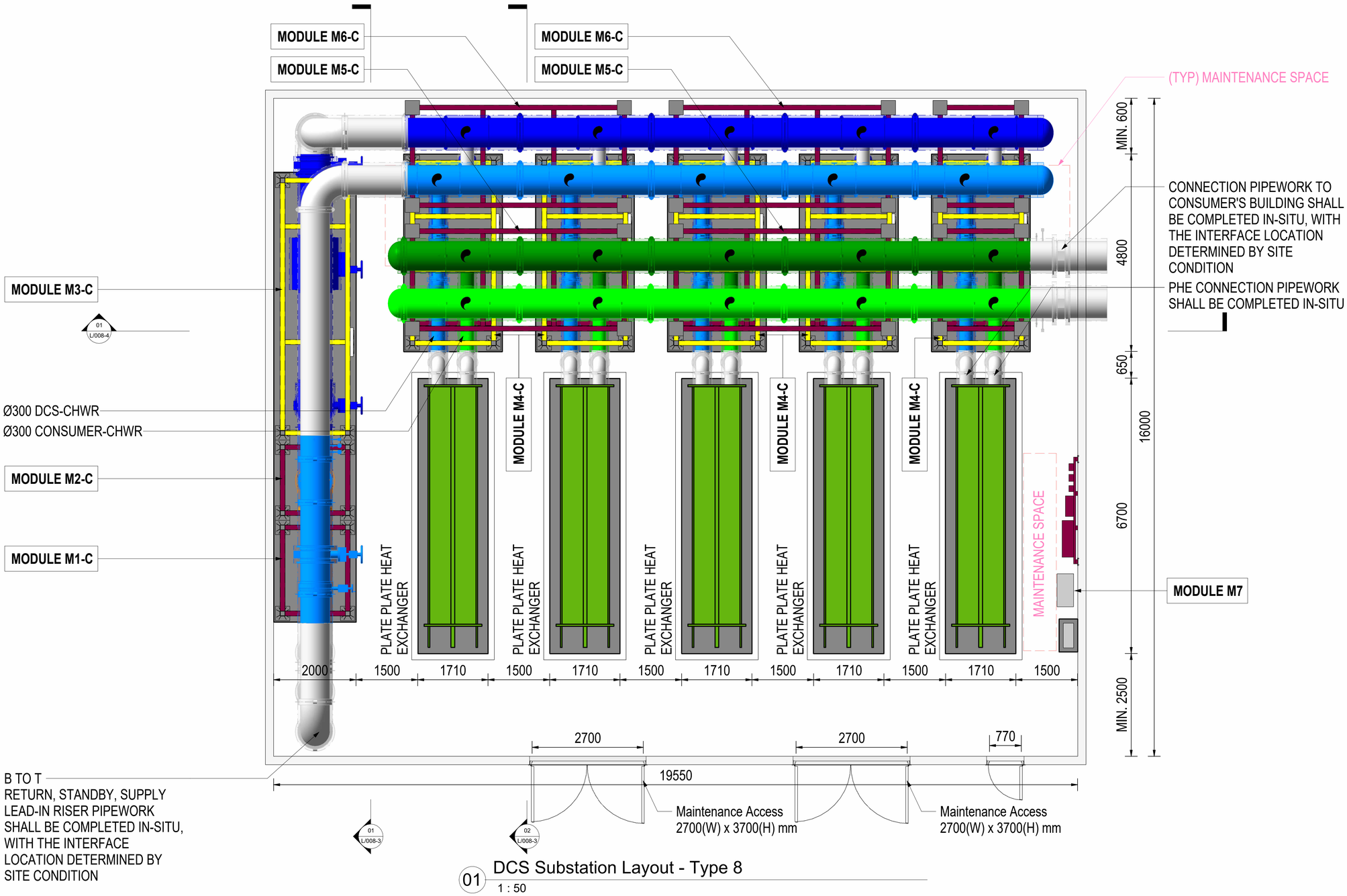
Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 8

1 : 50

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/008-2	B

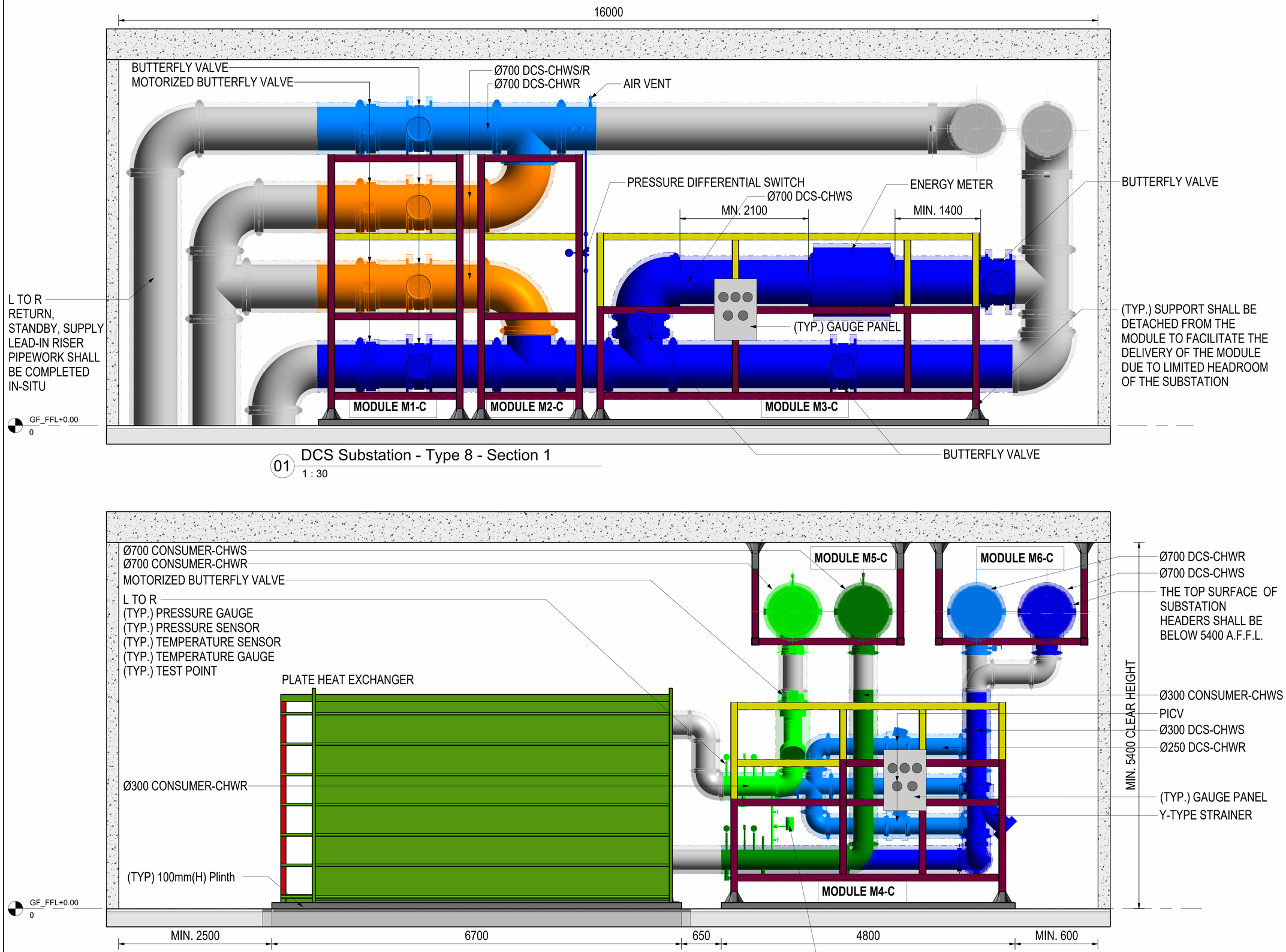
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Client: 機電工程署 EMSD

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01 DCS Substation - Type 8 - Section 1
1 : 30

02 DCS Substation - Type 8 - Section 2
1 : 30

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

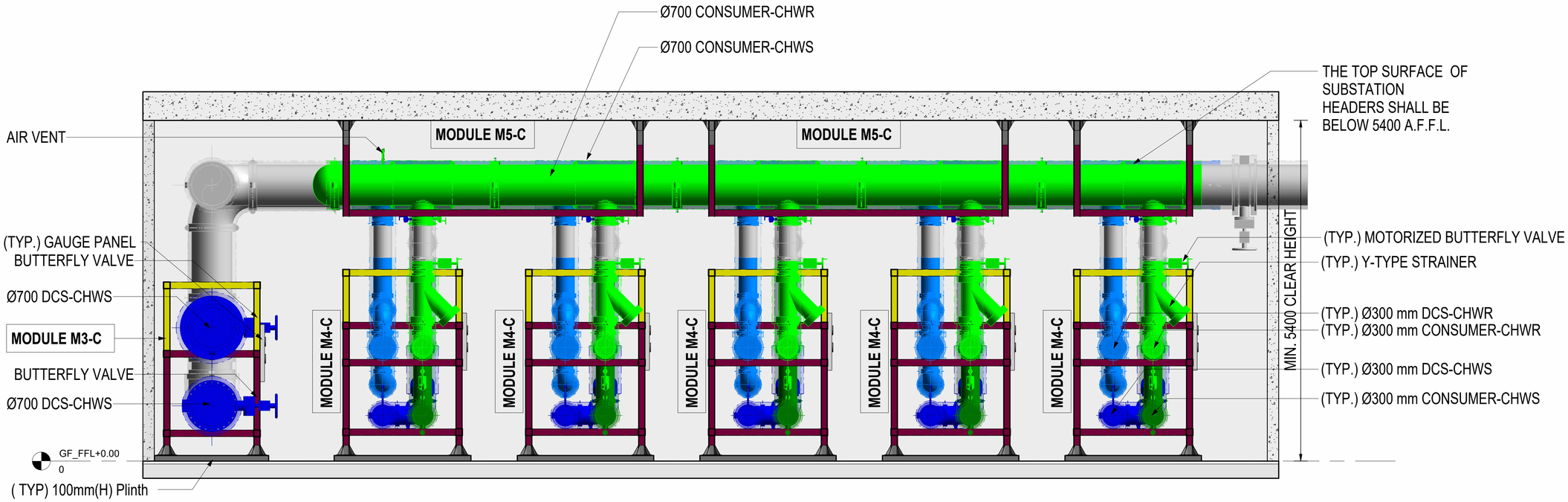
1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 3 OF 4

Drawing No. SC/L/008-3
Revision B
Scale A1 As indicated
Client 機電工程署 EMSD

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01 DCS Substation - Type 8 - Section 3

1 : 40

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1A
3. Module 6A
4. Module 5A
5. Module 4A
6. Remaining in-situ pipework
8. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 8 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/008-4	B

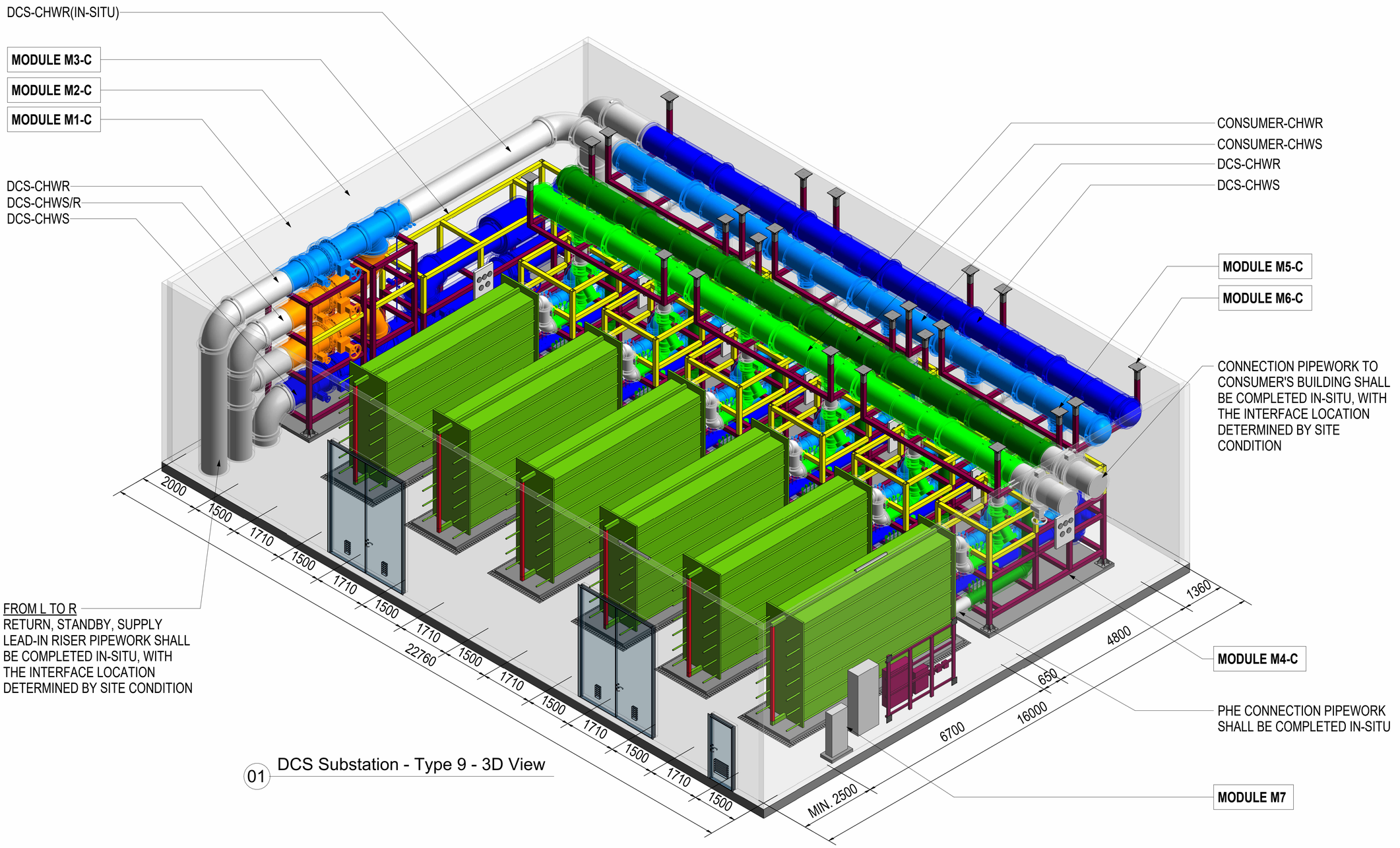
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Client: 機電工程署 EMSD

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FROM L TO R
RETURN, STANDBY, SUPPLY
LEAD-IN RISER PIPEWORK SHALL BE COMPLETED IN-SITU, WITH THE INTERFACE LOCATION DETERMINED BY SITE CONDITION

01 DCS Substation - Type 9 - 3D View

Modules Number	Min. Module Dimension for Reference (L x W x H) (mm)	Module Weight for Reference (kg)	Operating Weight for Reference (kg)	Mounting Method
M1-C	2520 x 1830 x 5280	6050	9910	Floor-mounted
M2-C	2050 x 1700 x 5300	2680	5480	Floor-mounted
M3-C	7240 x 2000 x 3050	6390	11880	Floor-mounted
M4-C	4830 x 2100 x 3260	4730	6500	Floor-mounted
M5-C	2490 x 6020 x 1420	3410	8090	Celling-mounted
M6-C	2490 x 6370 x 1420	3410	8090	Celling-mounted
M7	2600 x 380 x 2200	230	230	Wall-mounted

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 1 OF 4

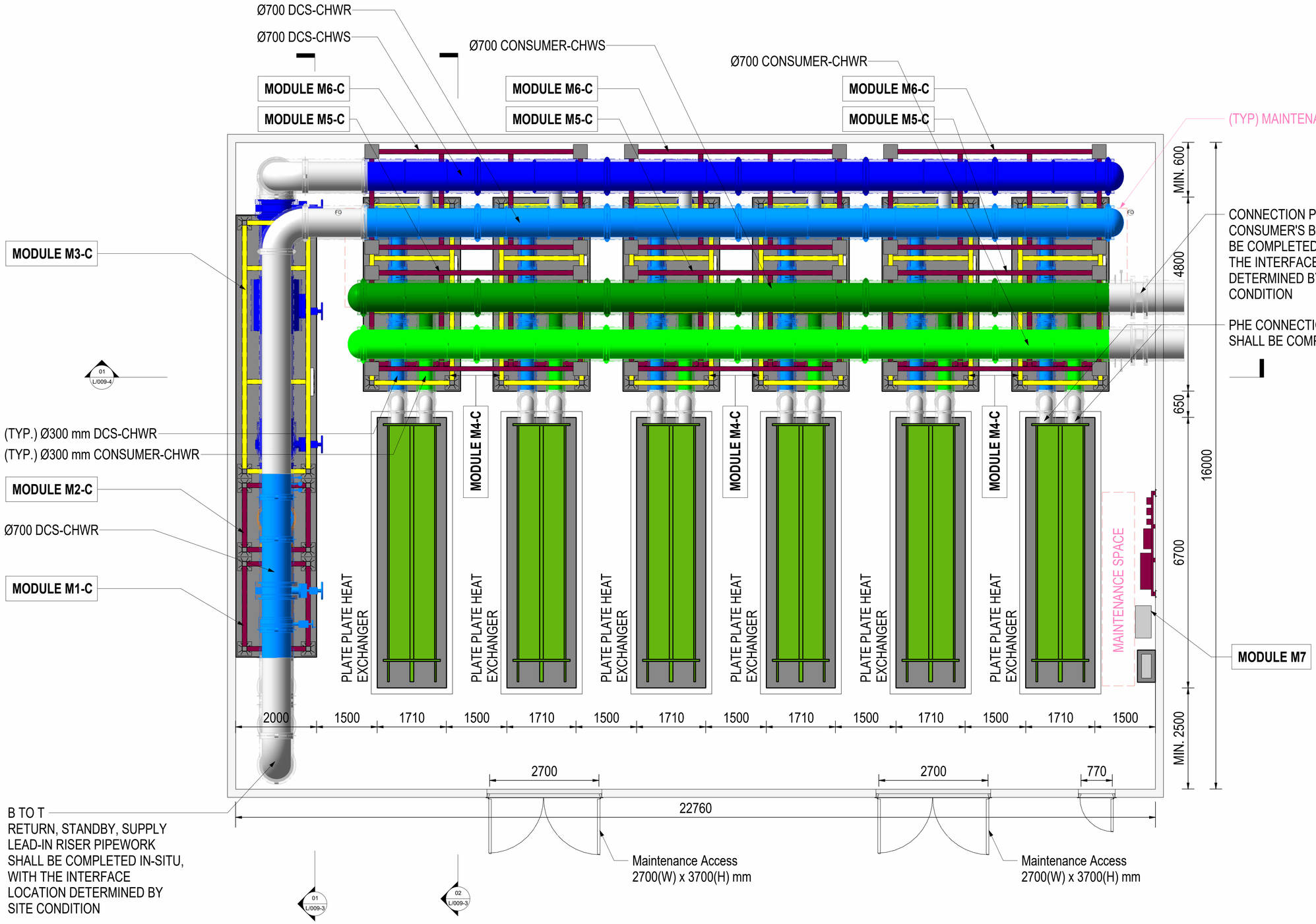
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Revision B

Scale A1 1 : 20

Client 機電工程署 EMSD

Plot Date: 3/20/2026 4:17:53 PM
File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation Layout - Type 9

1 : 50

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 2 OF 4

Drawing No.	Revision
SC/L/009-2	B

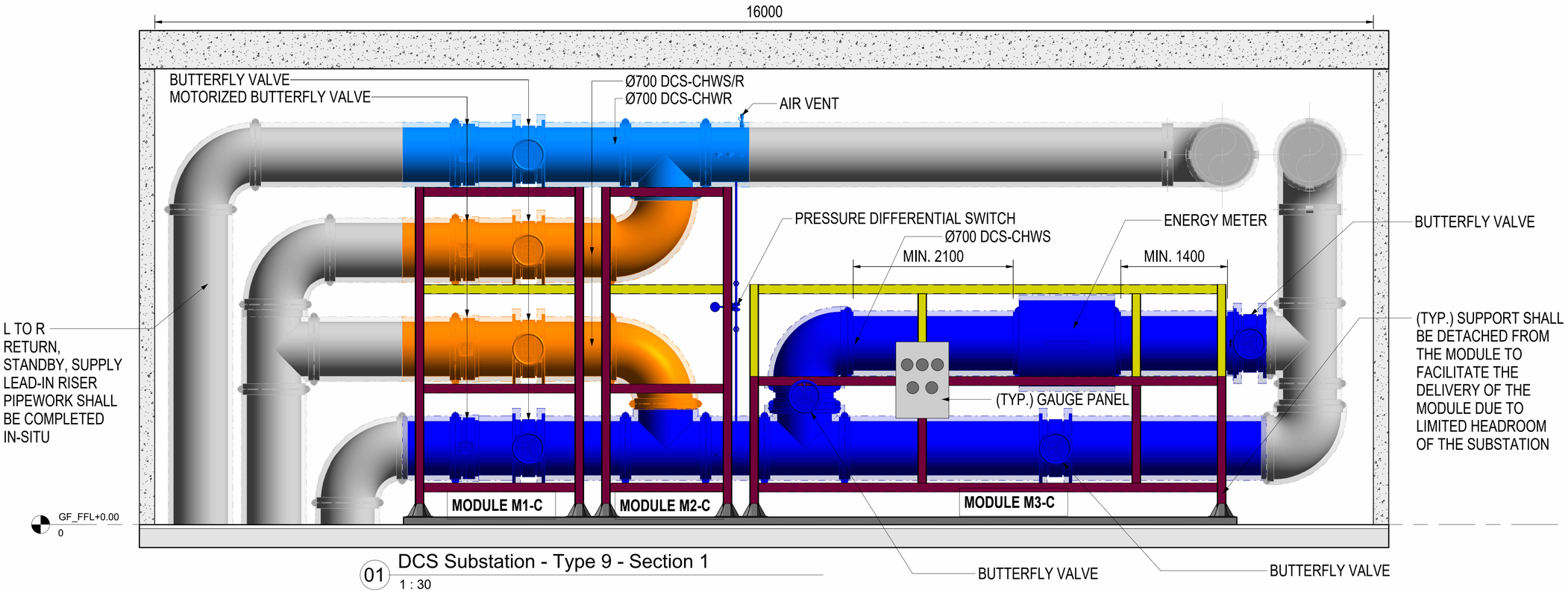
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Client: 機電工程署 EMSD

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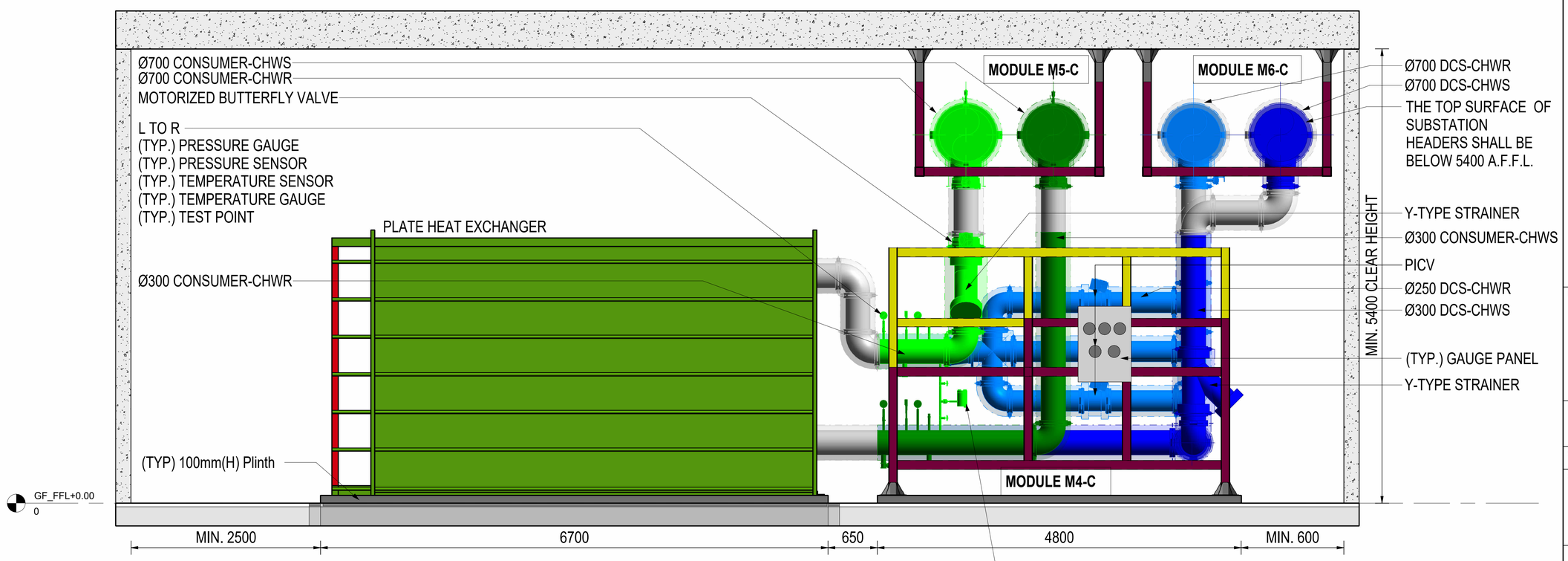
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File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 9 - Section 1

1 : 30



02 DCS Substation - Type 9 - Section 2

1 : 30

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title

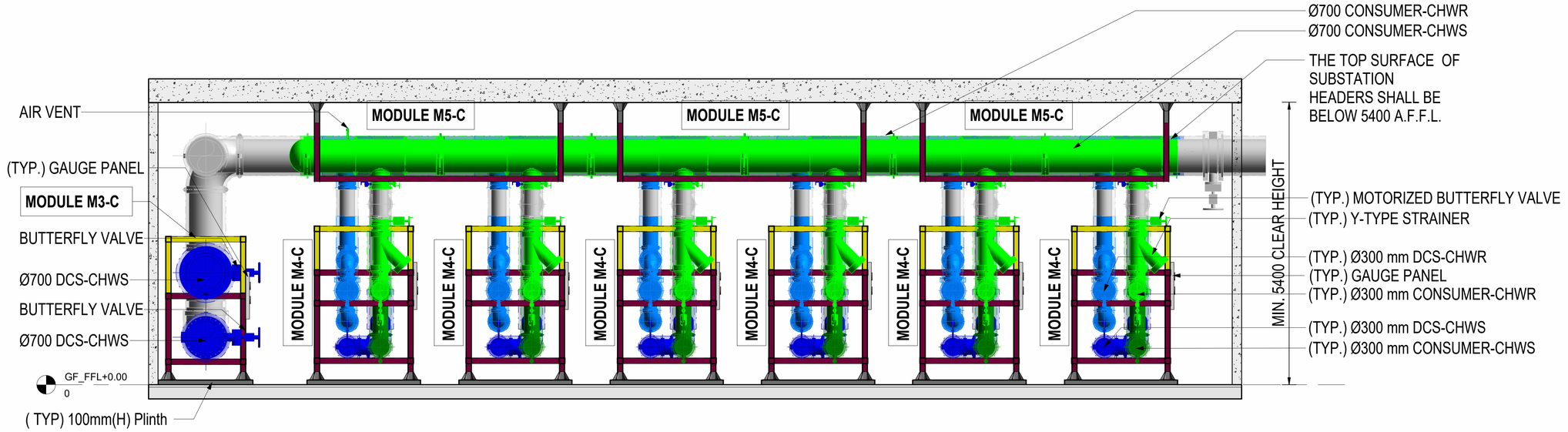
GENERAL ARRANGEMENT OF SUBSTATION
TYPE 9 - SHEET 3 OF 4

Drawing No.	Revision
SC/L/009-3	B

Scale: A1 As indicated

Client: 機電工程署 EMSD

Plot Date: 3/20/2026 4:18:02 PM
File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 DCS Substation - Type 9 - Section 3

1 : 50

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION TYPE 9 - SHEET 4 OF 4

Drawing No.	Revision
SC/L/009-4	B

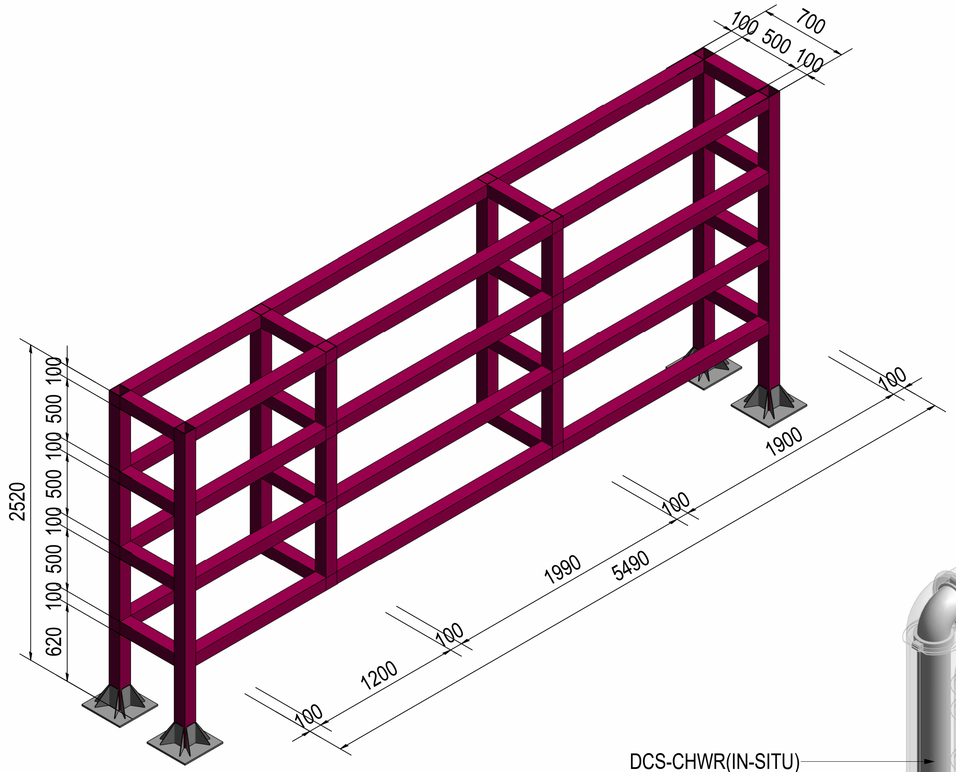
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Client: 機電工程署 EMSD

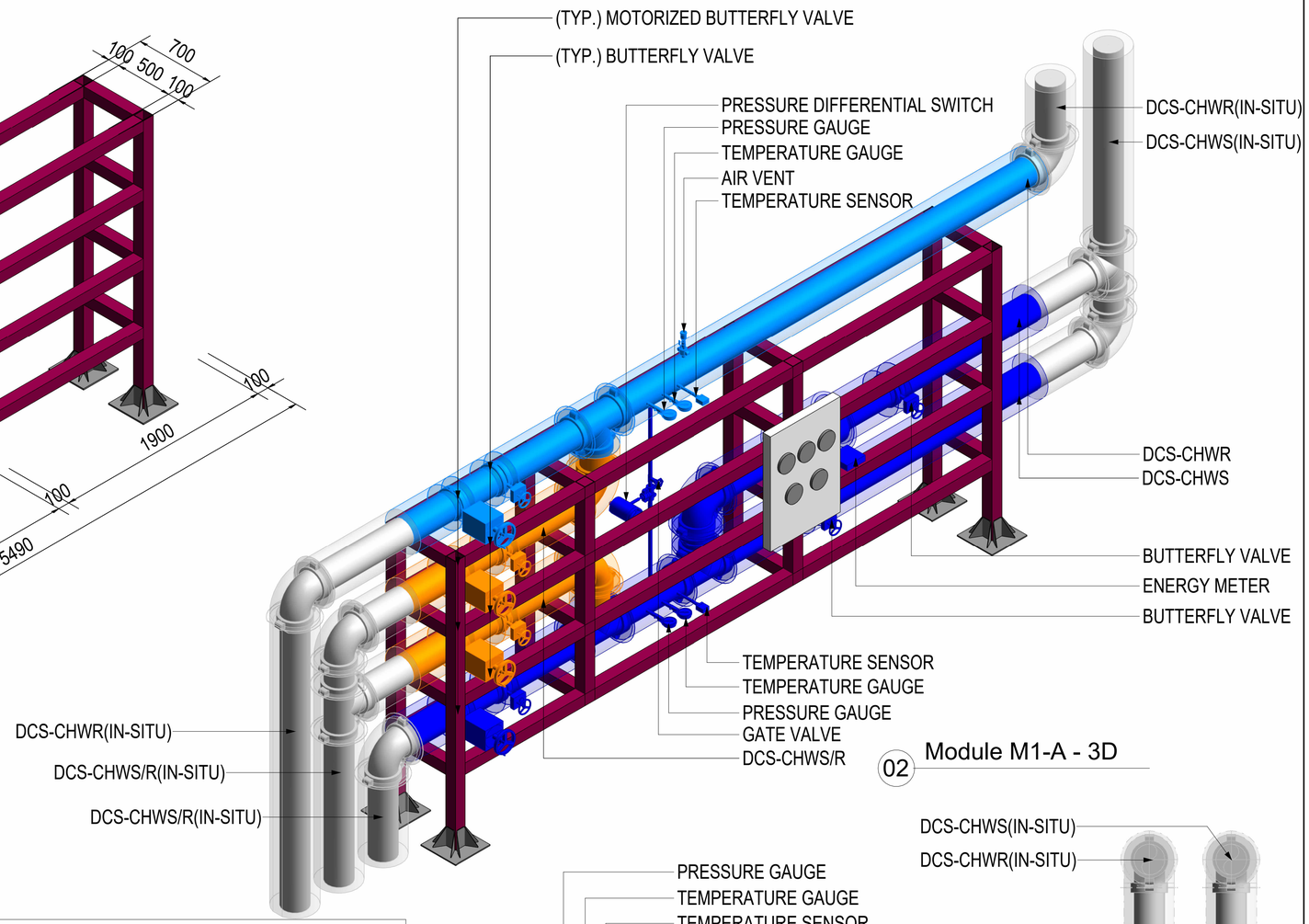
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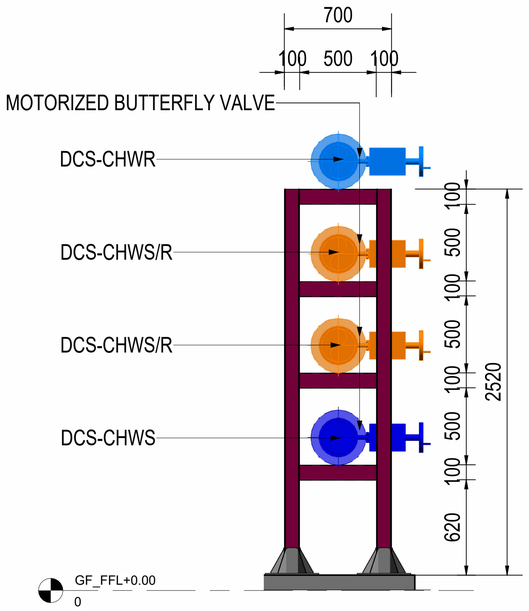
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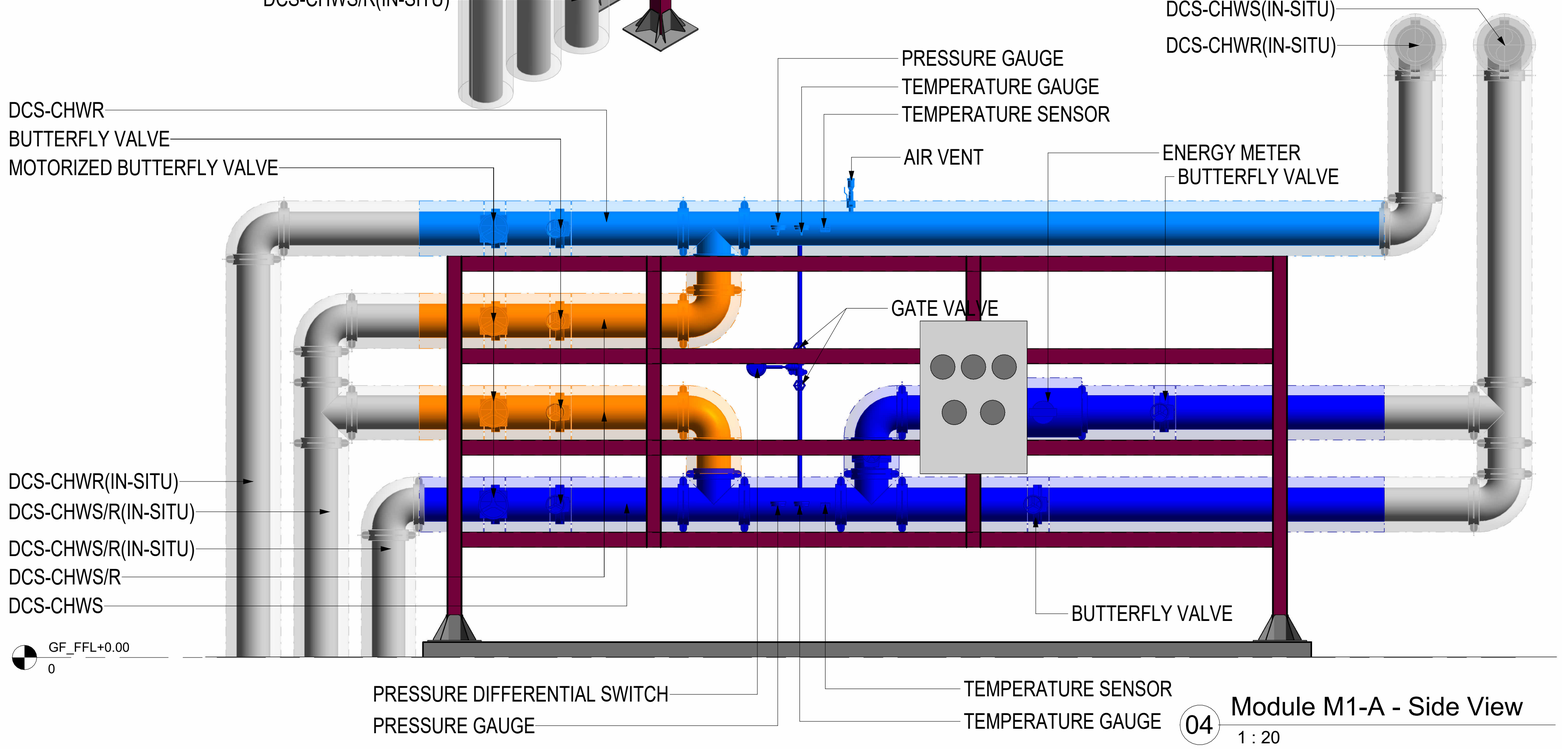
01 Module M1-A - Frame



02 Module M1-A - 3D



03 Module M1-A - Front View
1 : 20



04 Module M1-A - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

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Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION MODULE M1-A

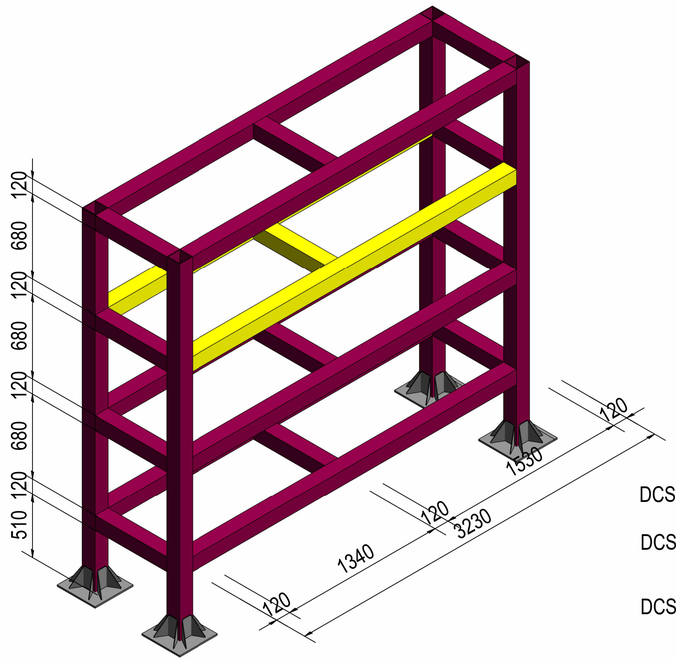
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SC/M/001A	B

Scale: A1 1 : 20

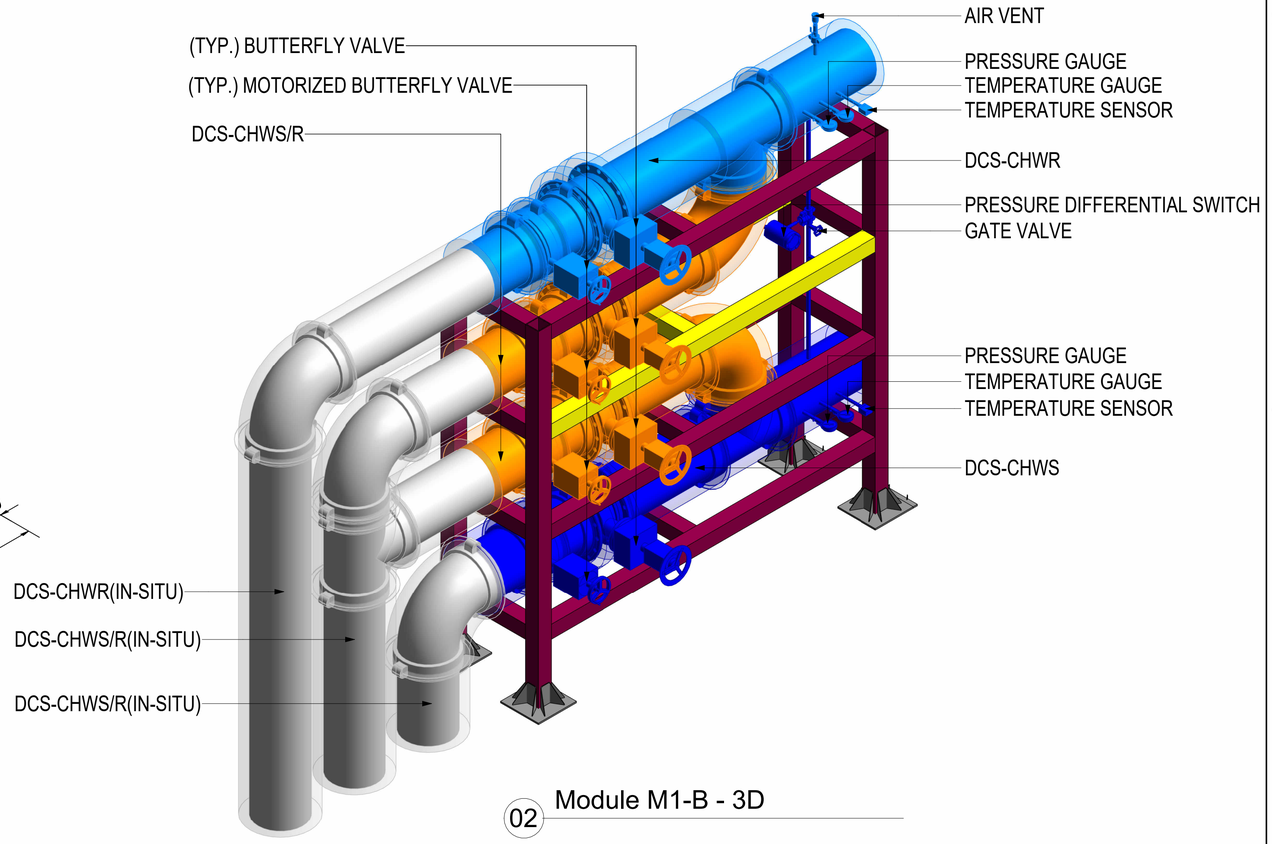
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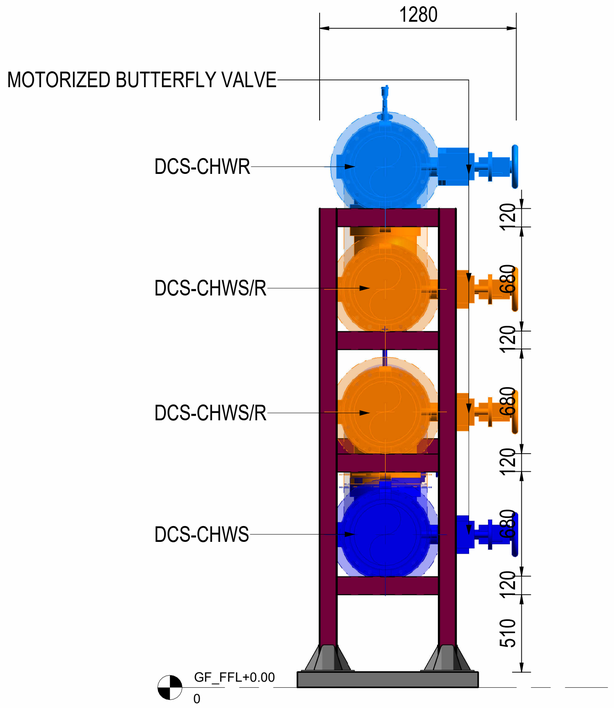
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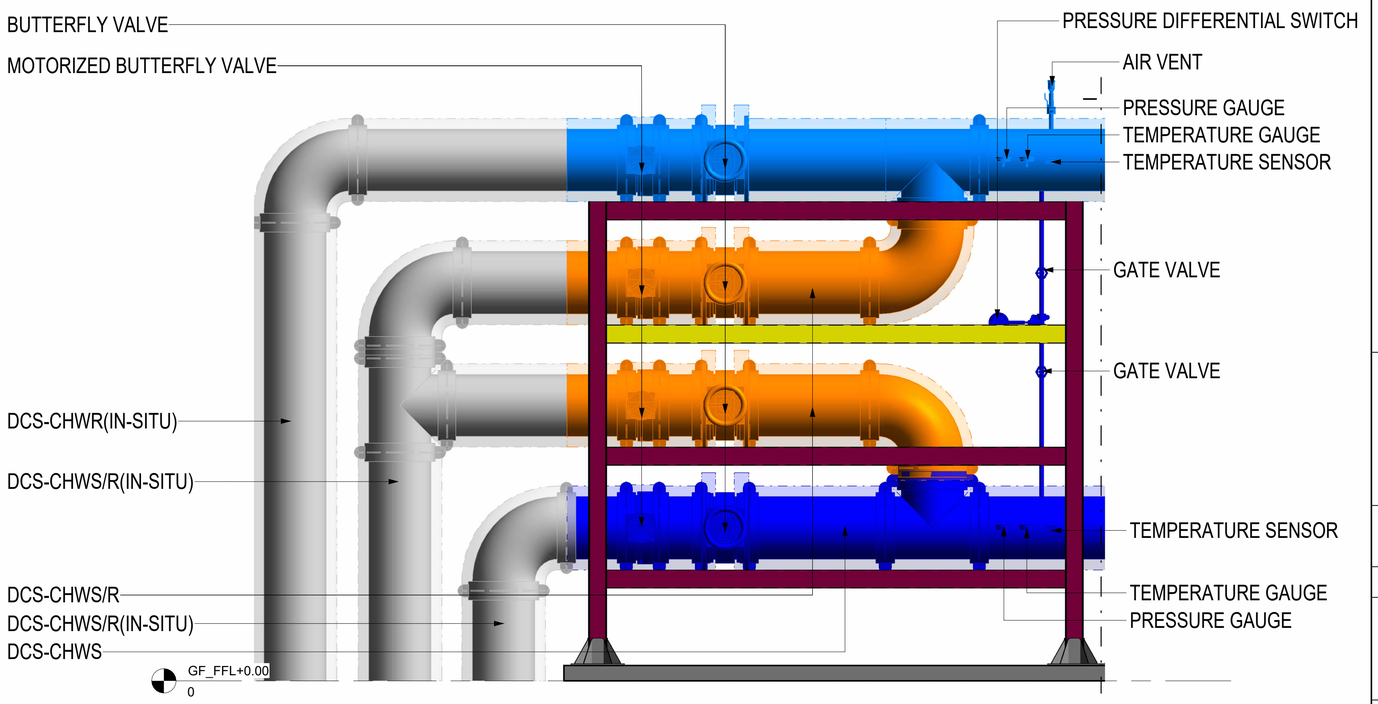
01 Module M1-B - Frame



02 Module M1-B - 3D



03 Module M1-B - Front View
1 : 20



04 Module M1-B Side View
1 : 20

THIS DRAWING IS GENERATED FROM REVIT MODEL

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

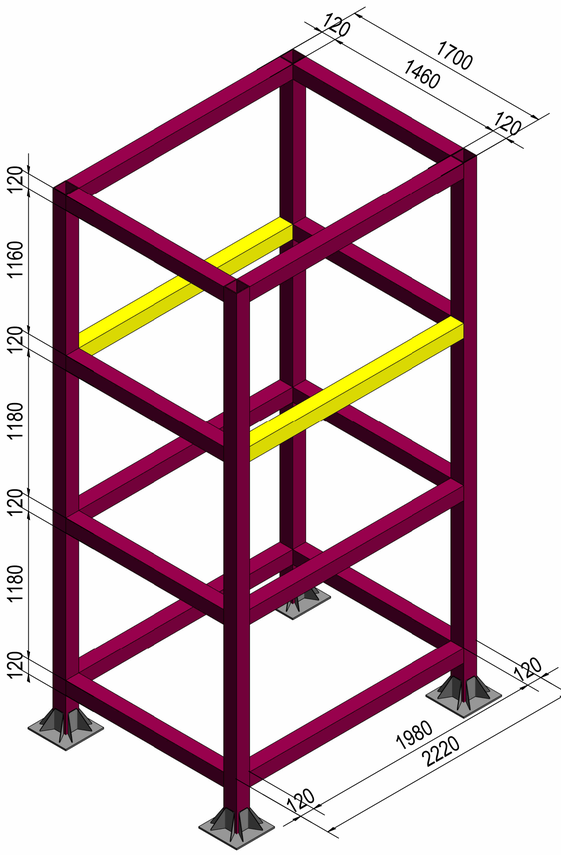
GENERAL ARRANGEMENT
OF SUBSTATION
MODULE M1-B

Drawing No.	Revision
SC/M/001B	B

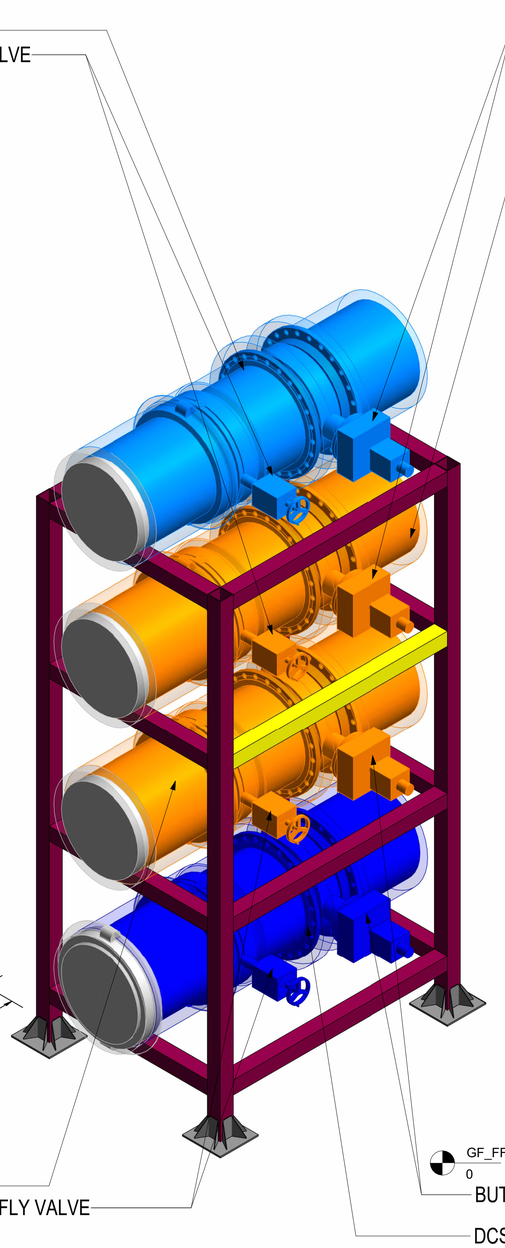
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Client: 機電工程署 EMSD

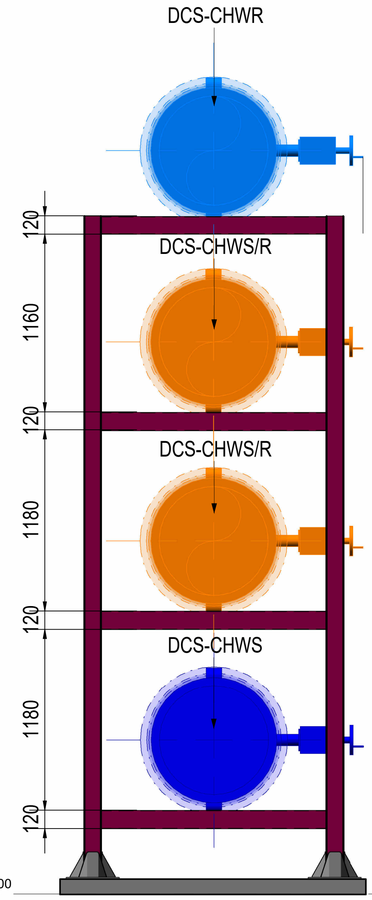
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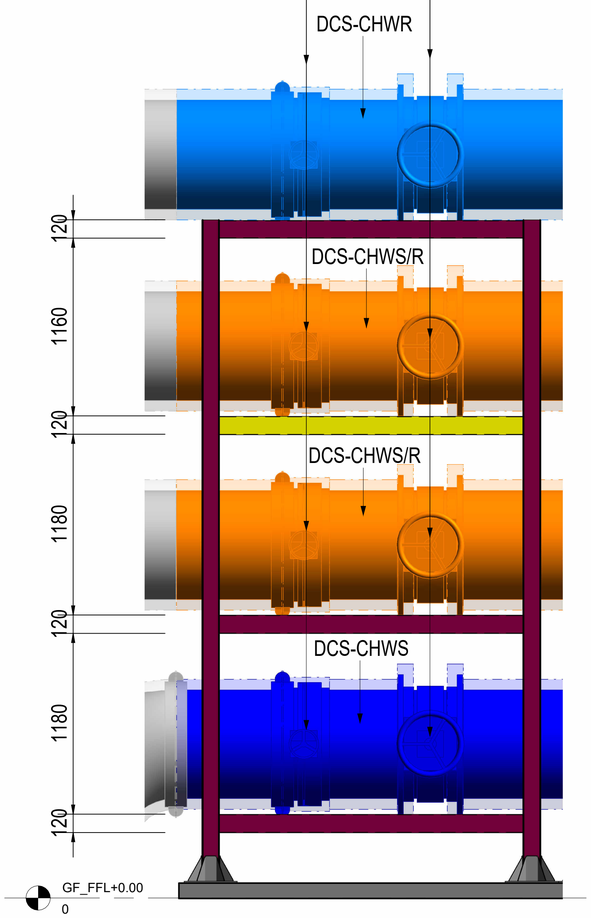
01 Module M1-C - Frame



02 Module M1-C - 3D



03 Module M1-C - Front View
1 : 20



04 Module M1-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M1-C

Drawing No.	Revision
SC/M/001C	B

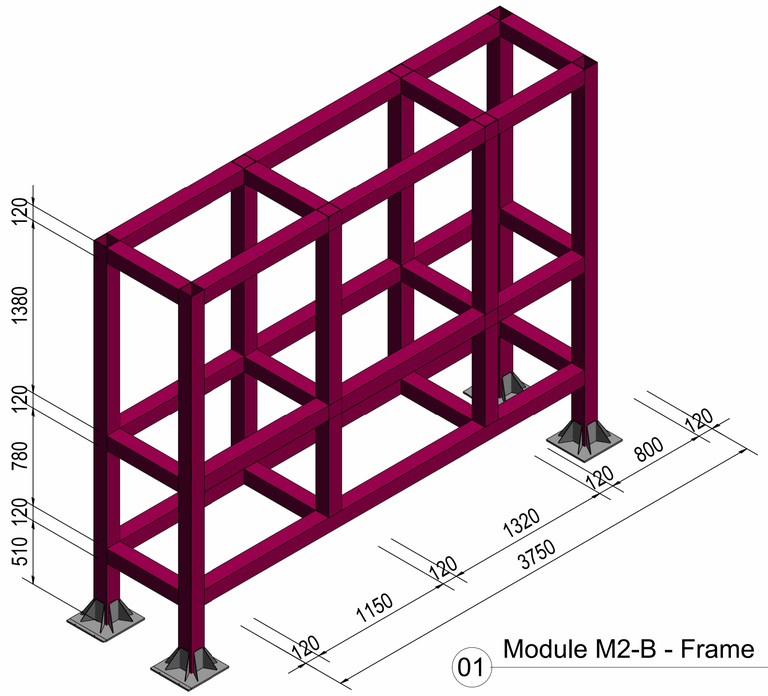
Scale: A1 1 : 20

Client: 機電工程署 EMSD

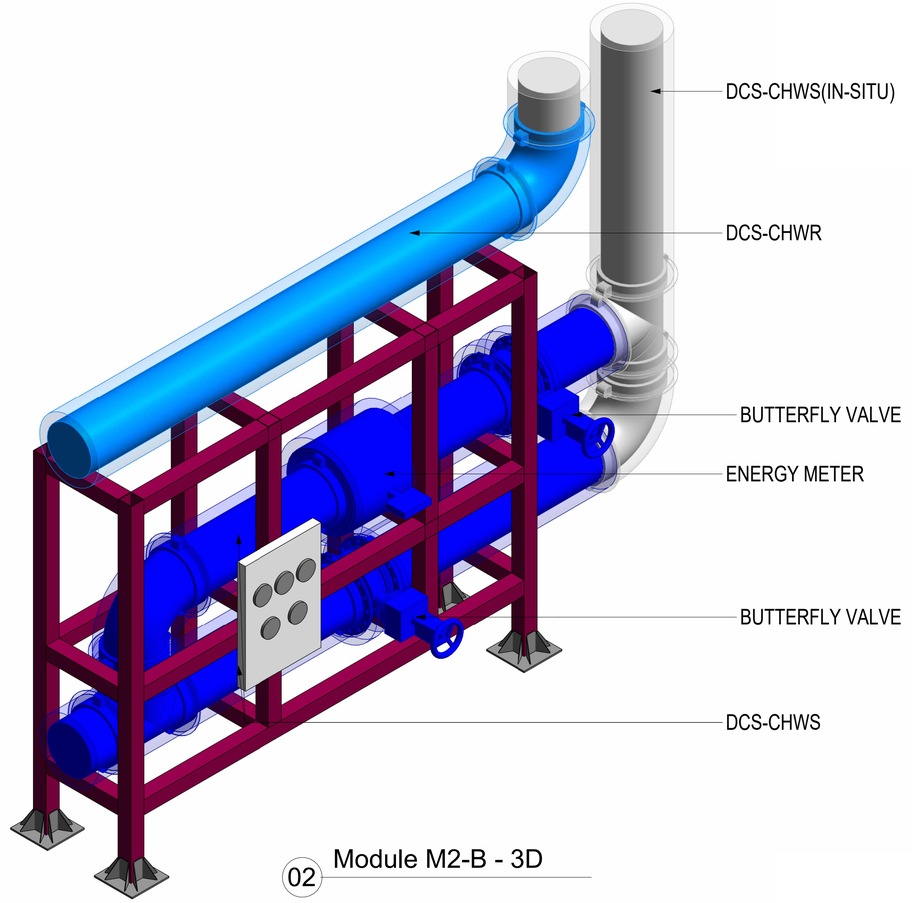
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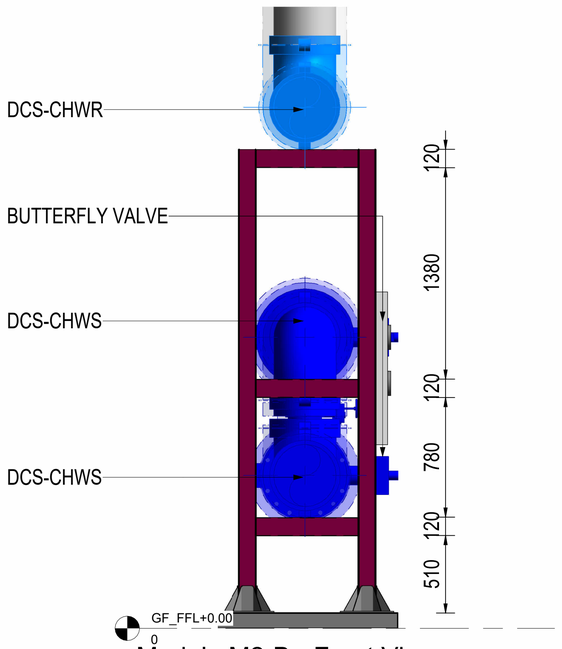
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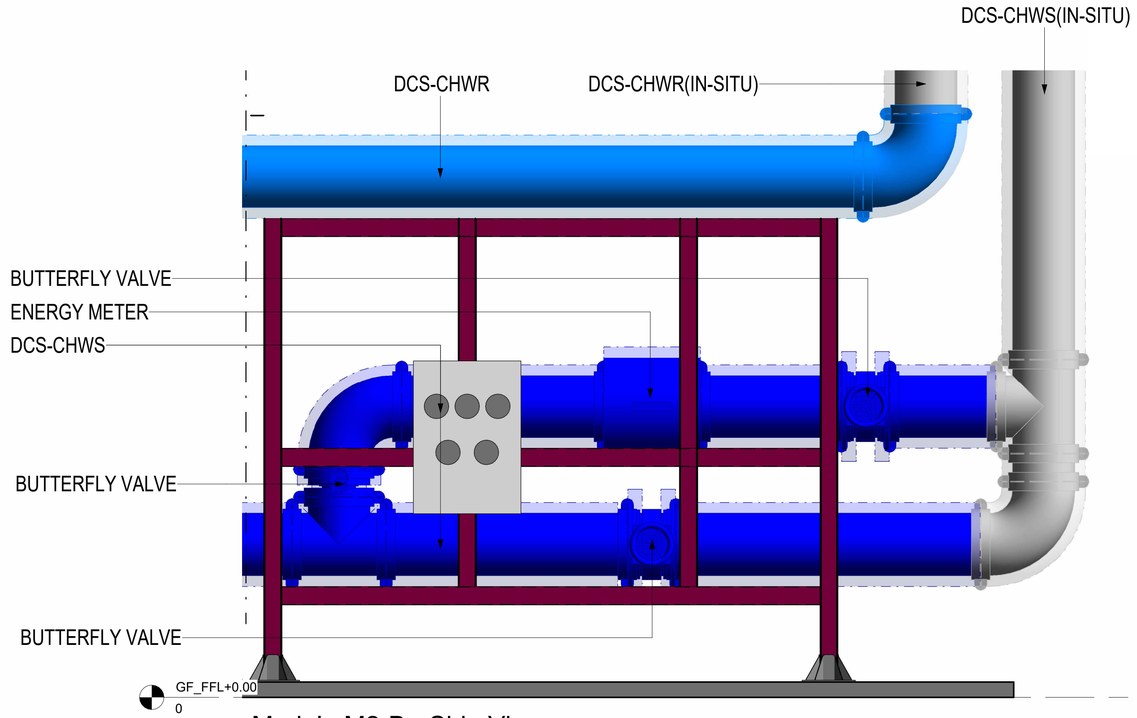
01 Module M2-B - Frame



02 Module M2-B - 3D



03 Module M2-B - Front View
1 : 20



04 Module M2-B - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
MODULE M2-B

Drawing No.	Revision
SC/M/002B	B

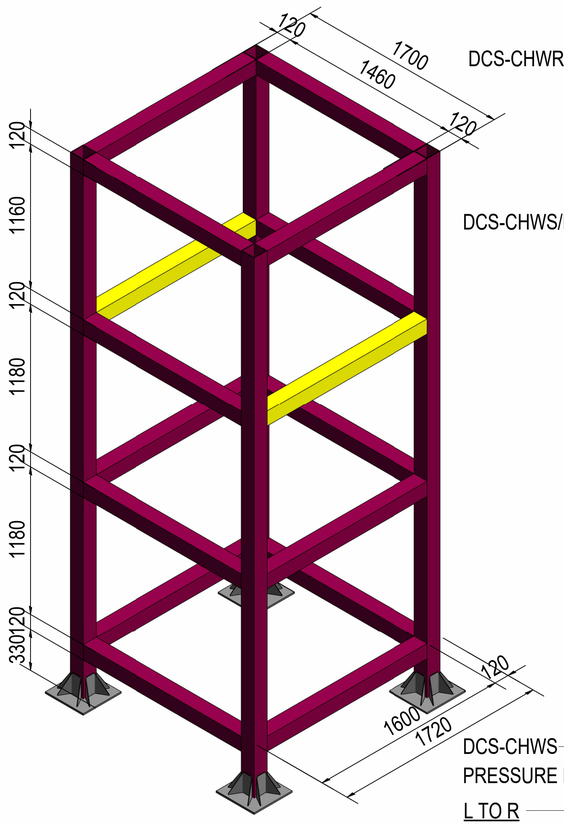
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Client: 機電工程署 EMSD

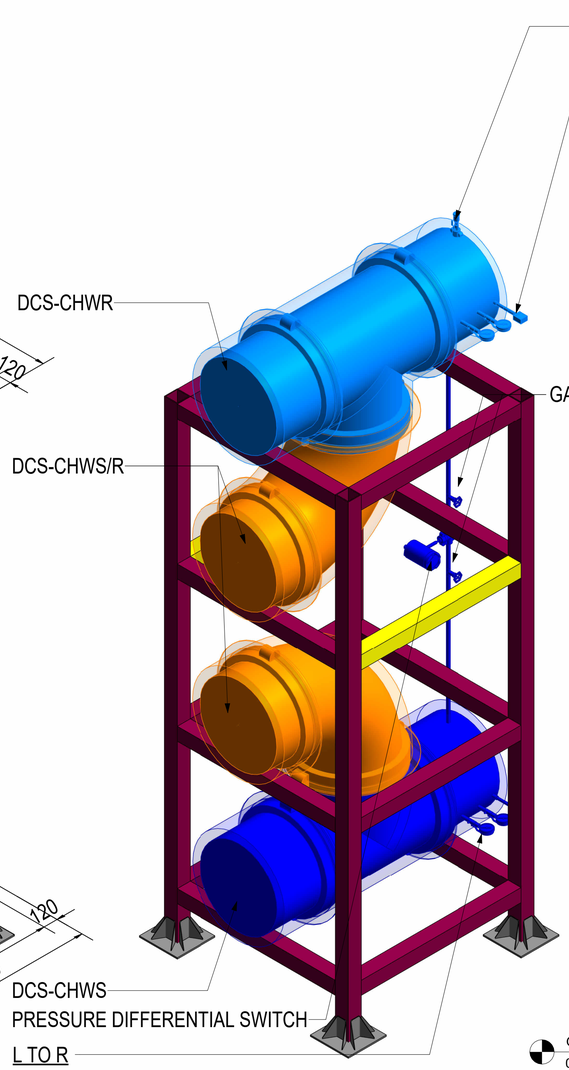
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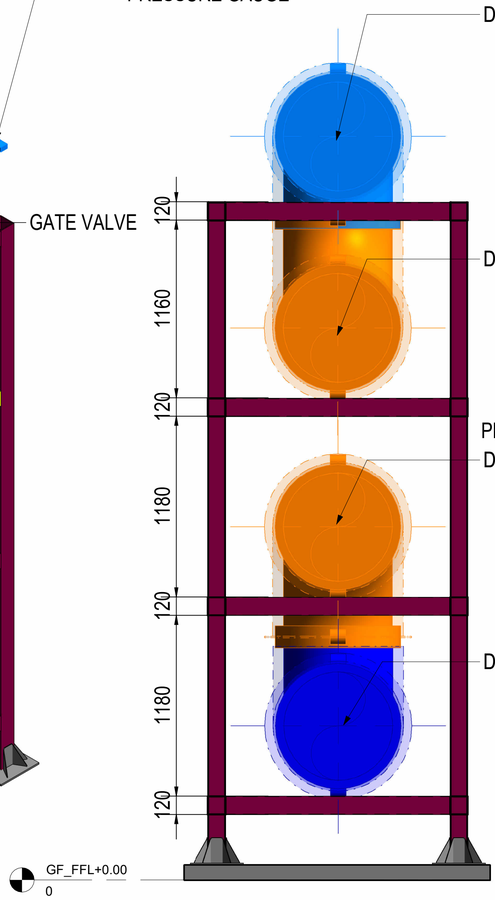
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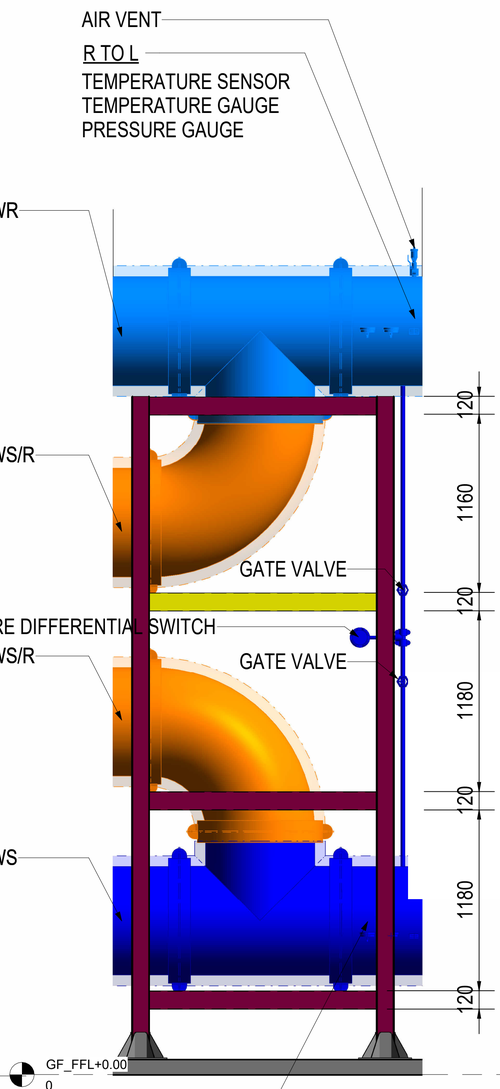
01 Module M2-C - Frame



02 Module M2-C - 3D



03 Module M2-C - Front View
1 : 20



04 Module M2-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M2-C

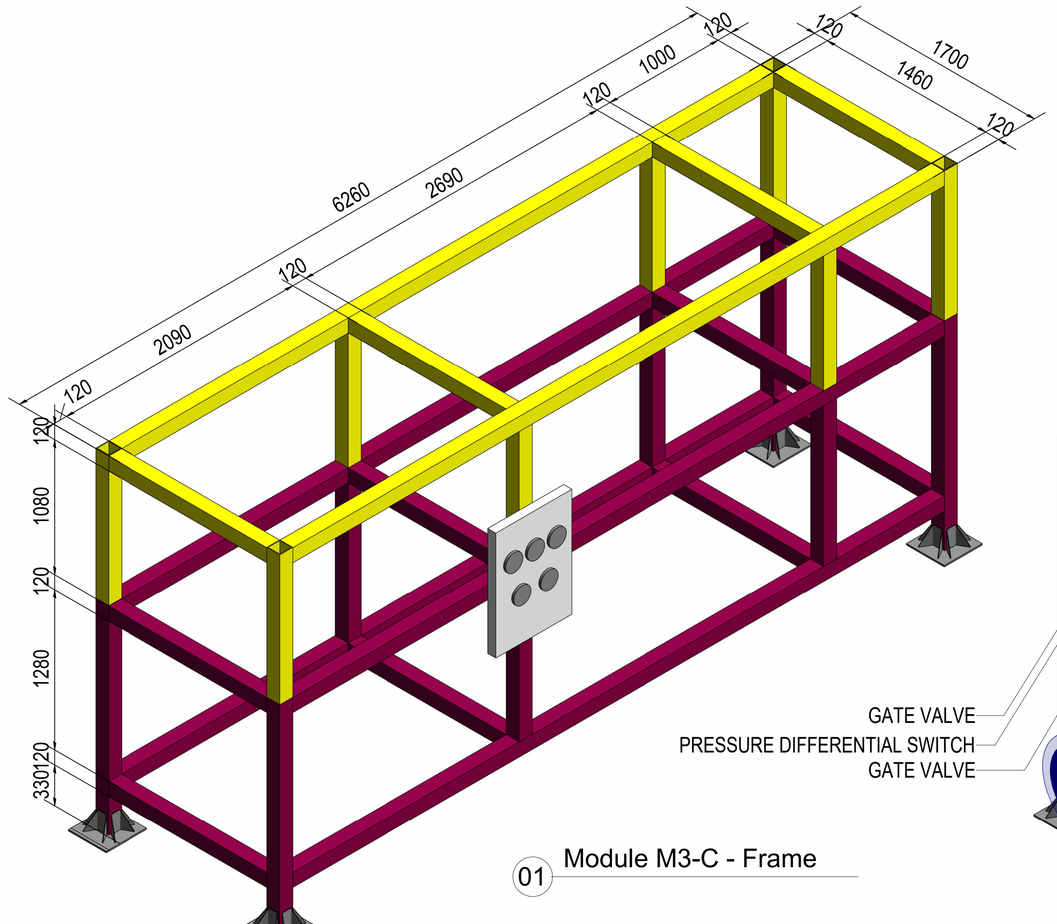
Drawing No.	Revision
SC/M/002C	B

Scale: A1 1 : 20

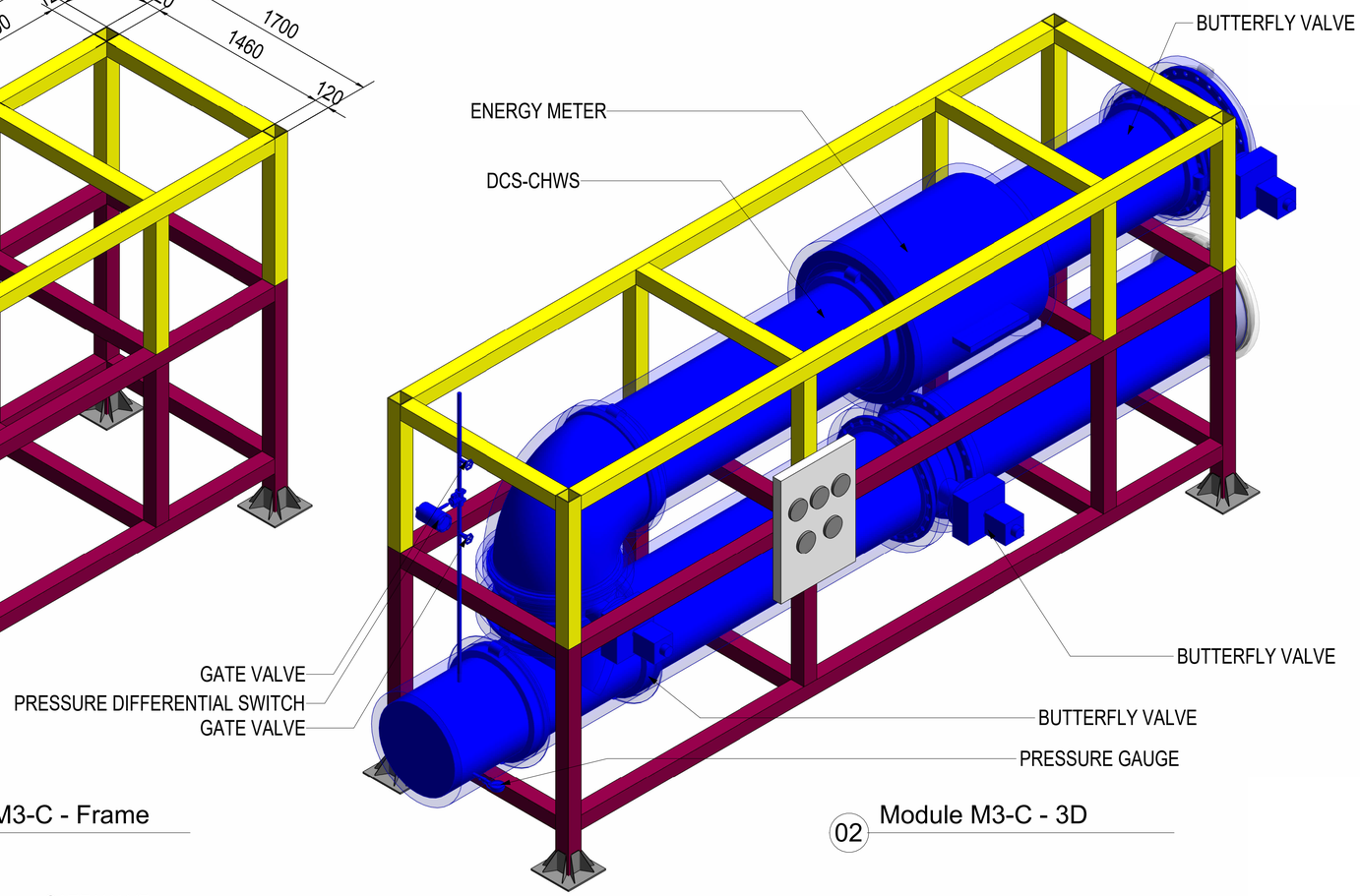
Client: 機電工程署 EMSD

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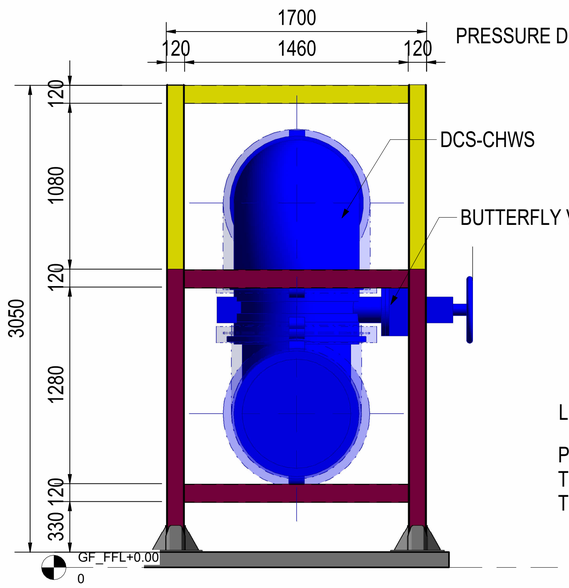
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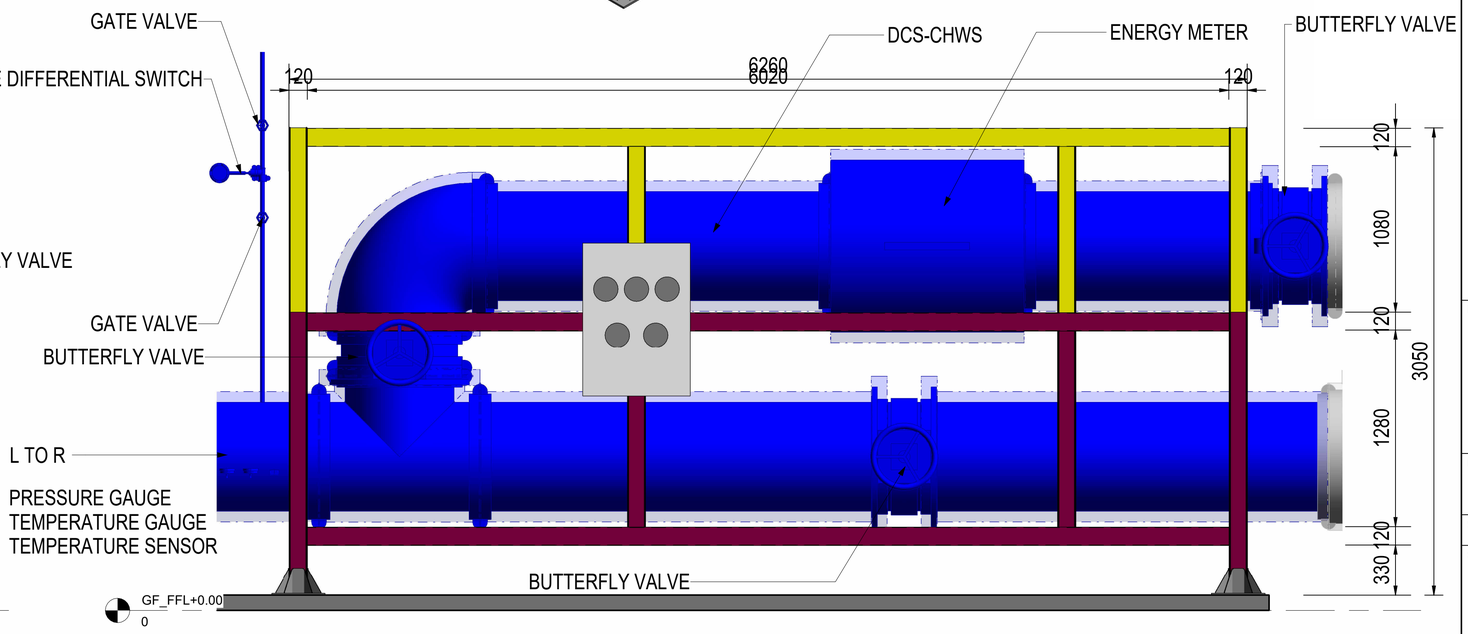
01 Module M3-C - Frame



02 Module M3-C - 3D



03 Module M3-C - Front View
1 : 20



04 Module M3-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION MODULE M3-C

Drawing No. SC/M/003C

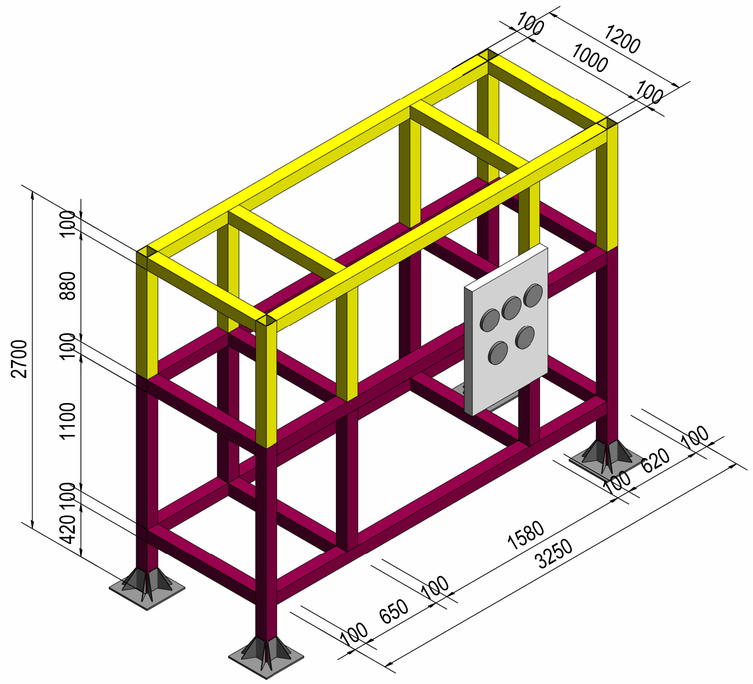
Revision B

Scale A1 1 : 20

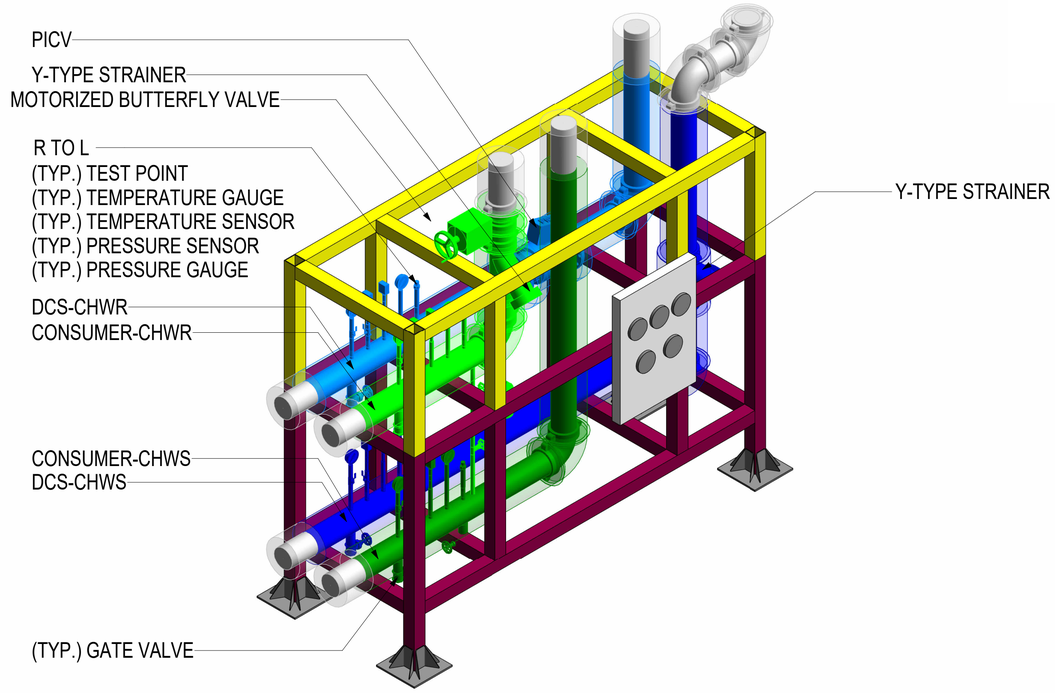
Client 機電工程署 EMSD

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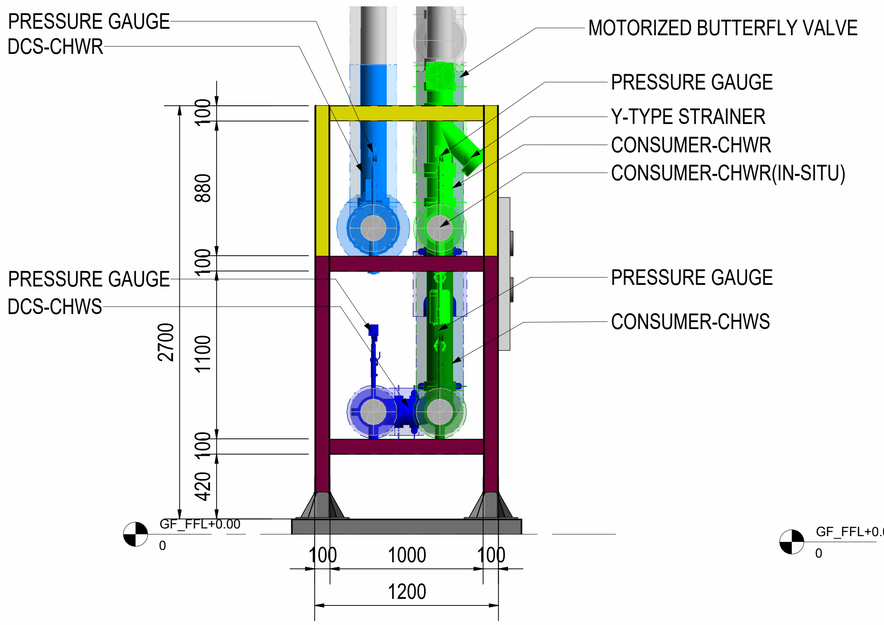
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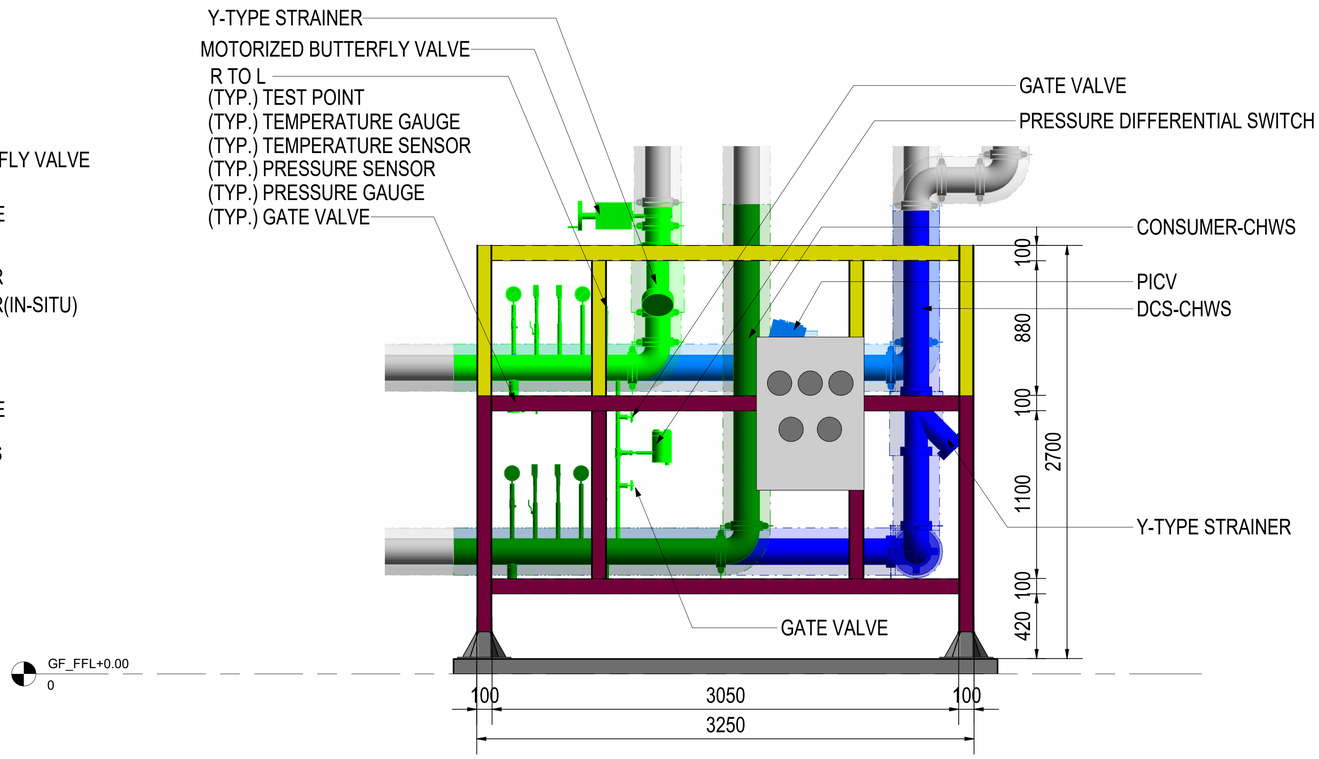
01 Module M4-A - Frame



02 Module M4-A - 3D



03 Module M4-A - Front View
1 : 20



04 Module M4-A - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-A

Drawing No.	Revision
SC/M/004A	B

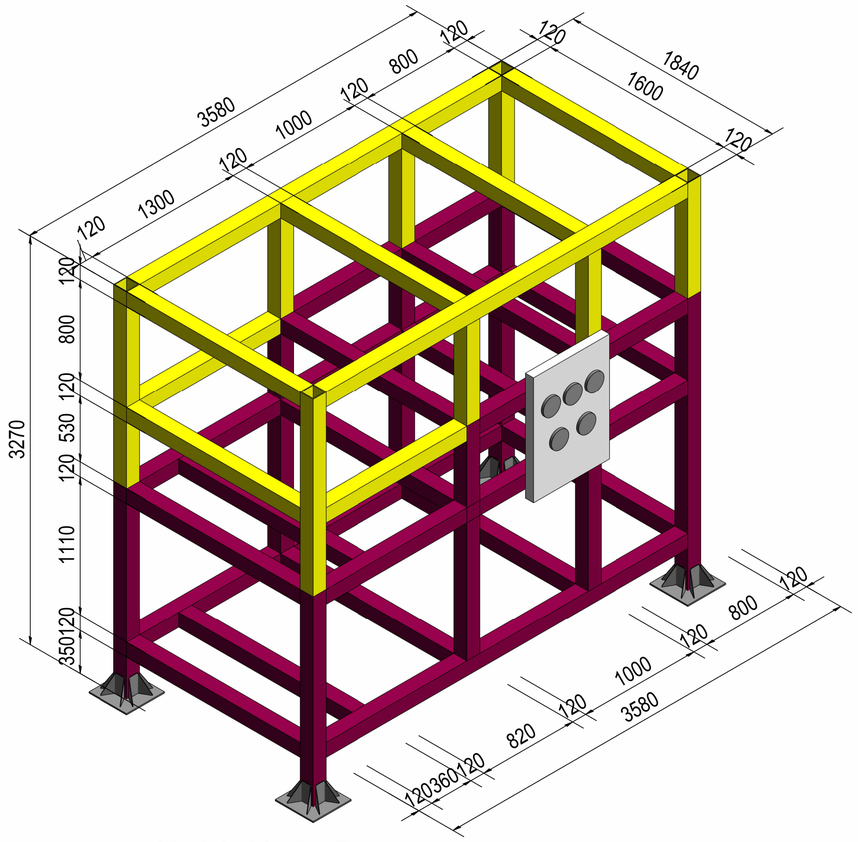
Scale: A1 1 : 20

Client: 機電工程署 EMSD

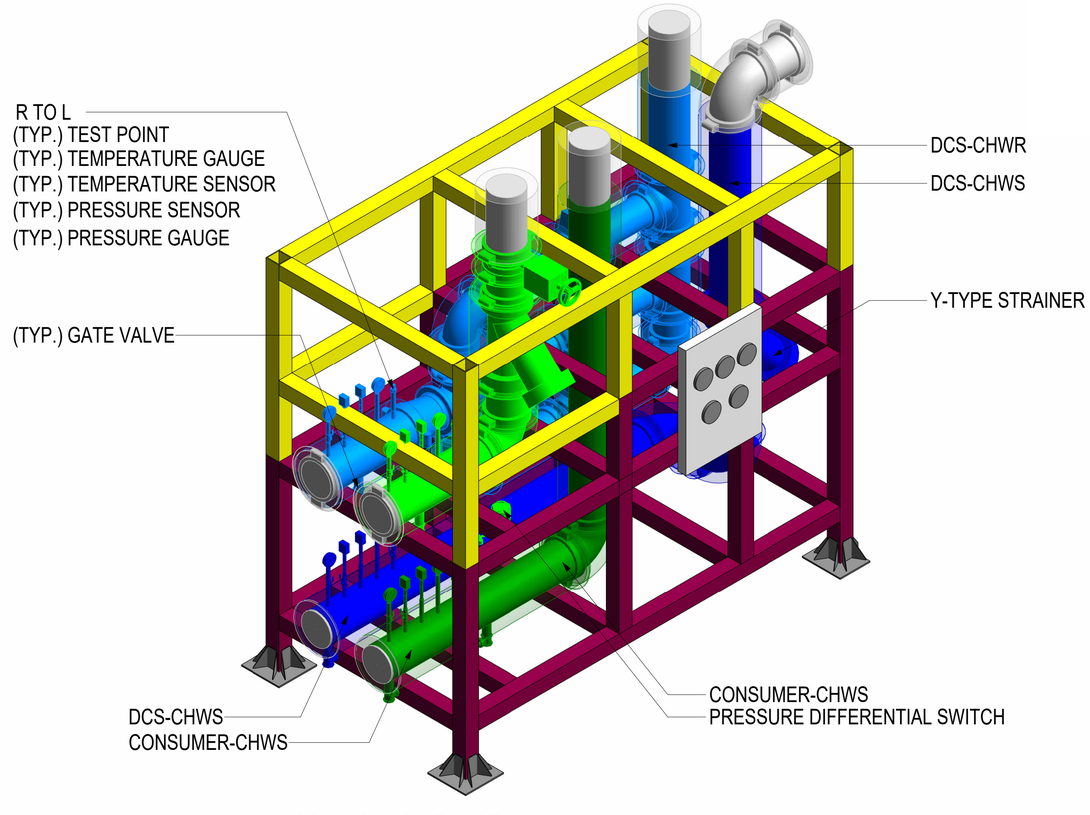
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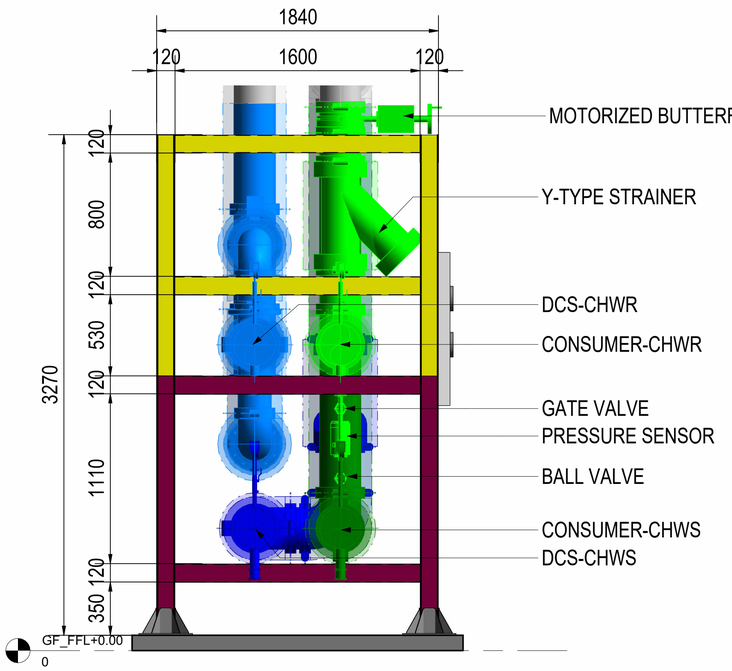
File Name: Autodesk Docs://4110518-Q2910-EMSD-MiMEP in DCS Projects in Hong Kong/Q2910-EMSD-MiMEP in DCS Projects in Hong Kong-Substation.rvt



01 Module M4-B - Frame

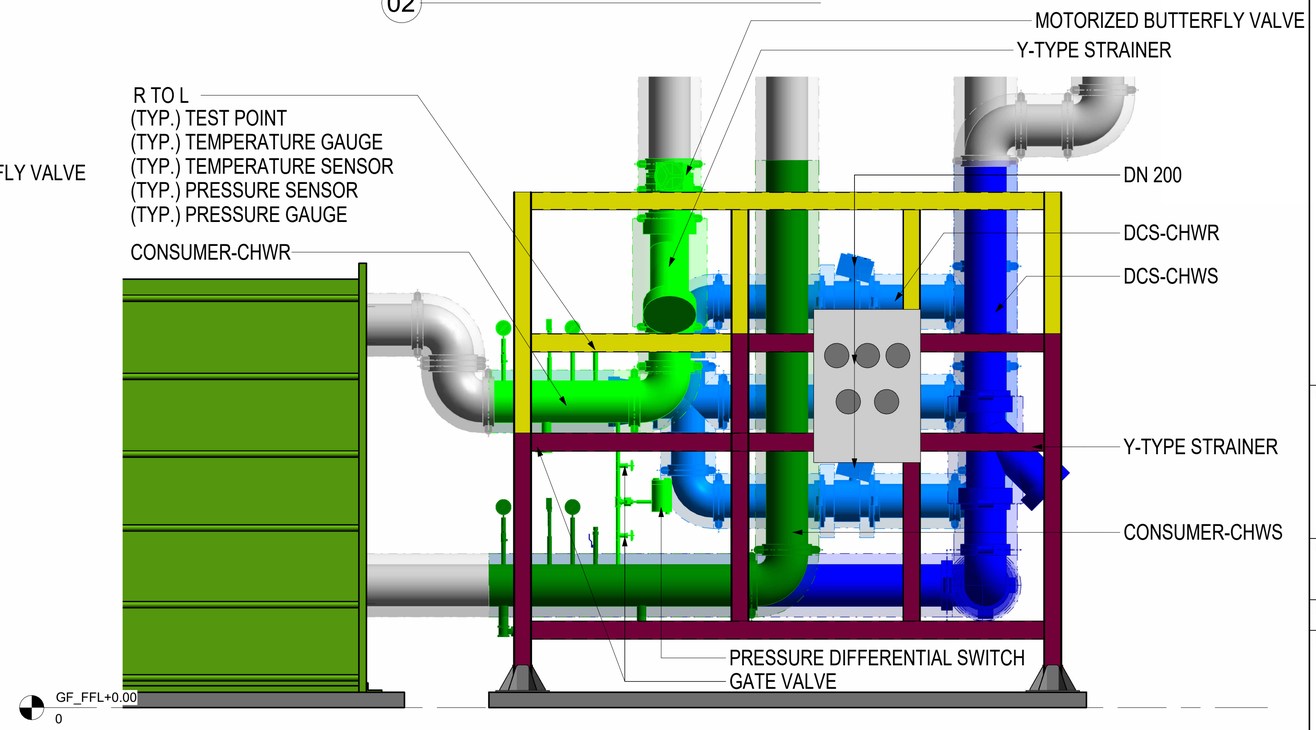


02 Module M4-B - 3D



03 Module M4-B - Front View

1 : 20



04 Module M4-B - Side View

1 : 20

THIS DRAWING IS GENERATED FROM REVIT MODEL

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-B

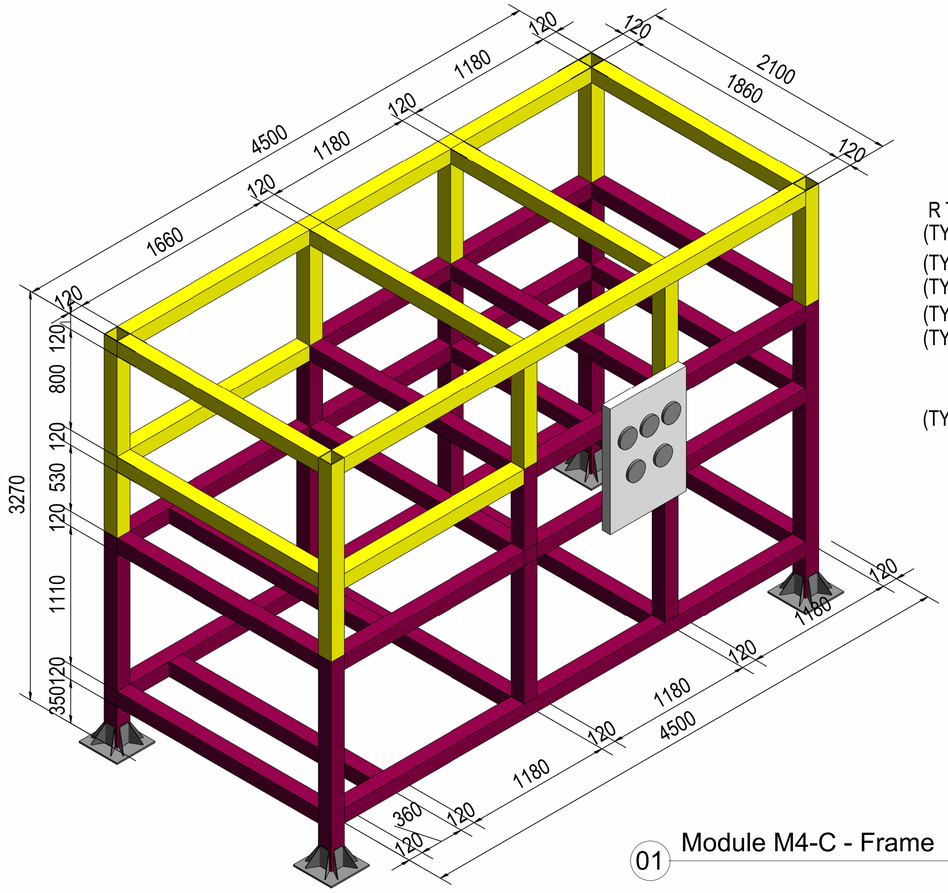
Drawing No.	Revision
SC/M/004B	B

Scale: A1 1 : 20

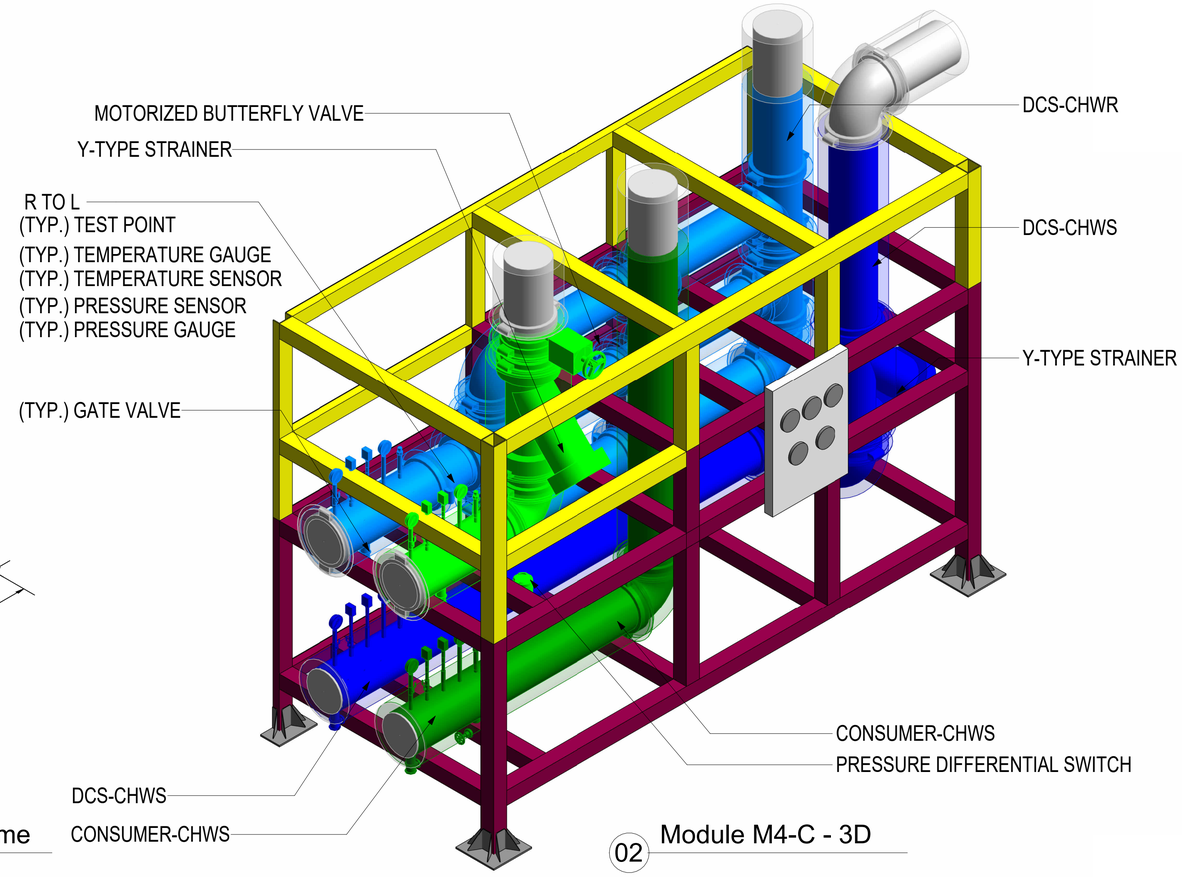
Client: 機電工程署 EMSD

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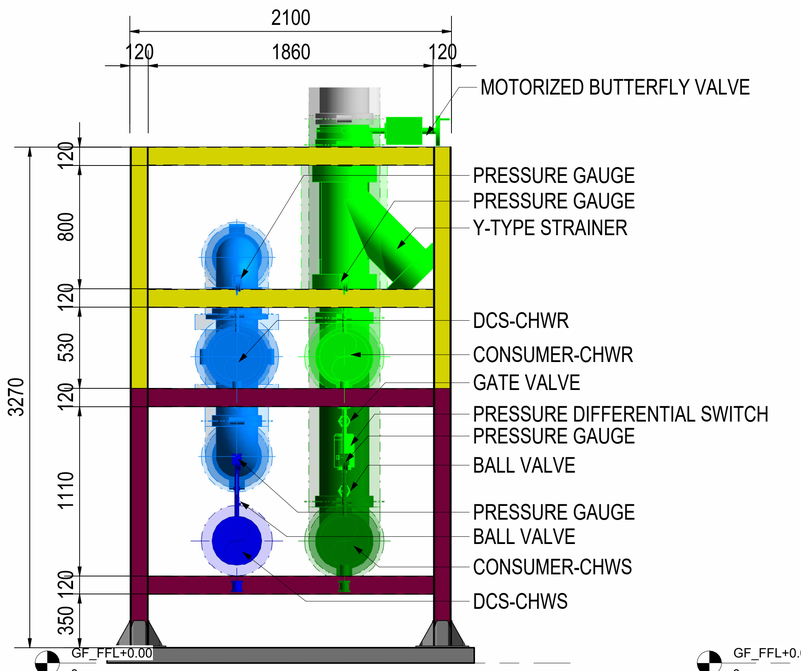
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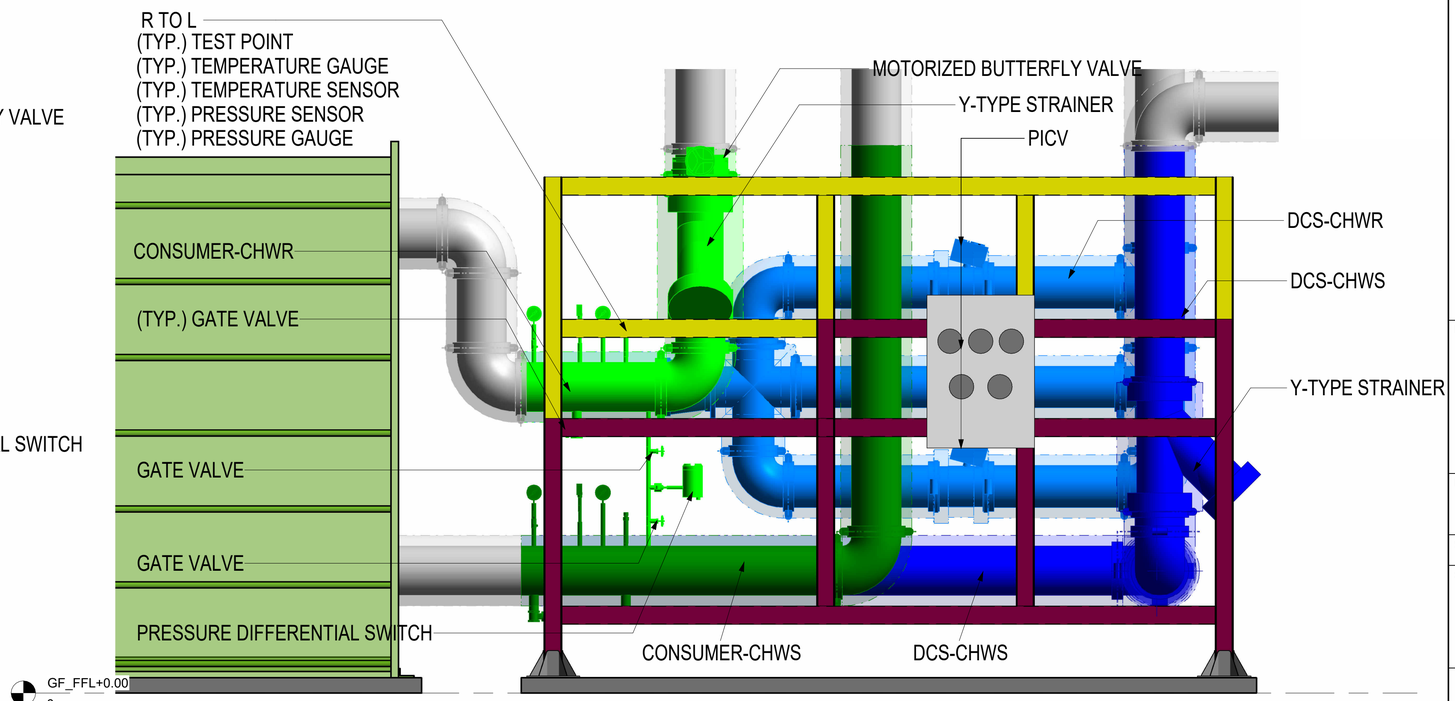
01 Module M4-C - Frame



02 Module M4-C - 3D



03 Module M4-C - Front View
1 : 20



04 Module M4-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M4-C

Drawing No.	Revision
SC/M/004C	B

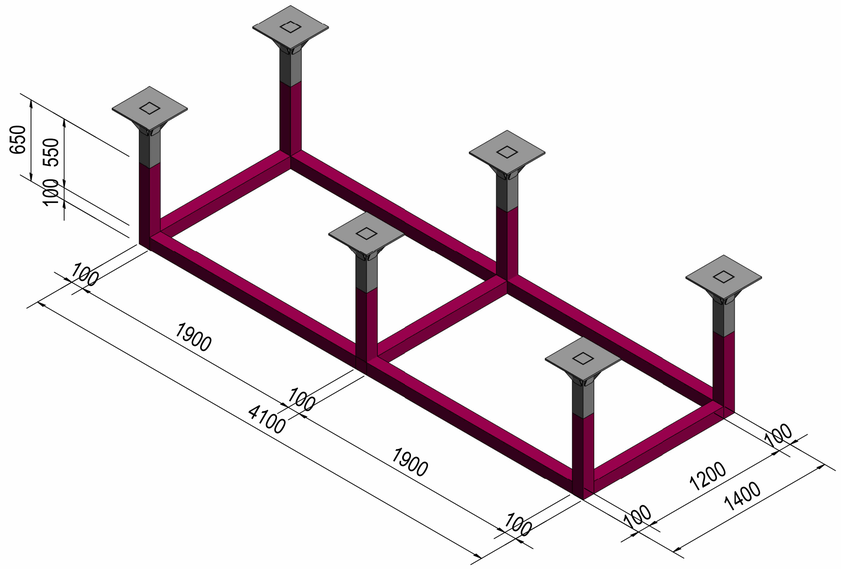
Scale: A1 1 : 20

Client: 機電工程署 EMSD

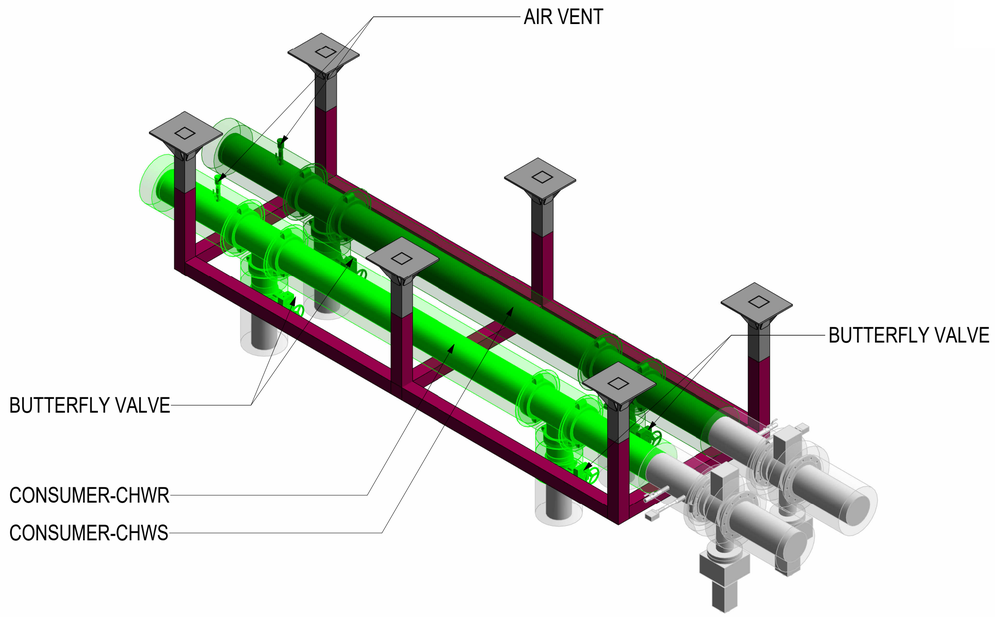
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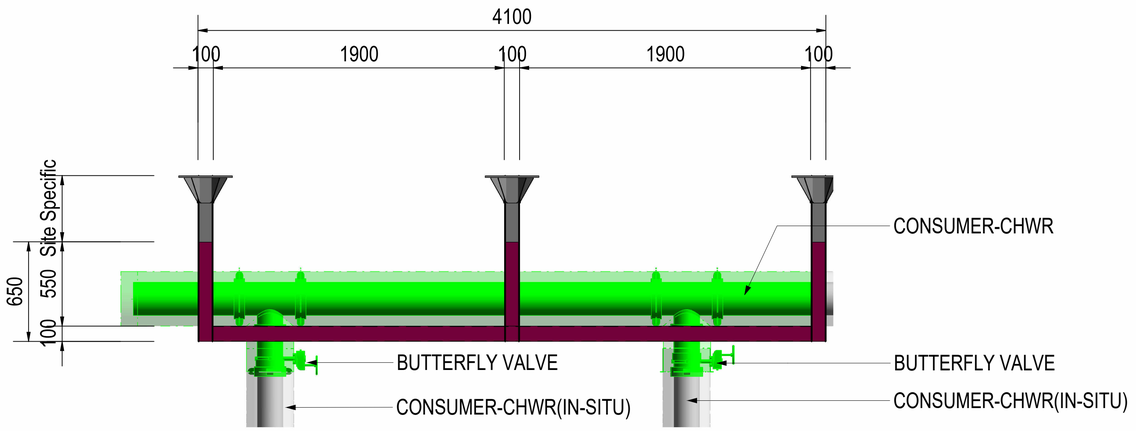
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01 Module M5-A - Frame

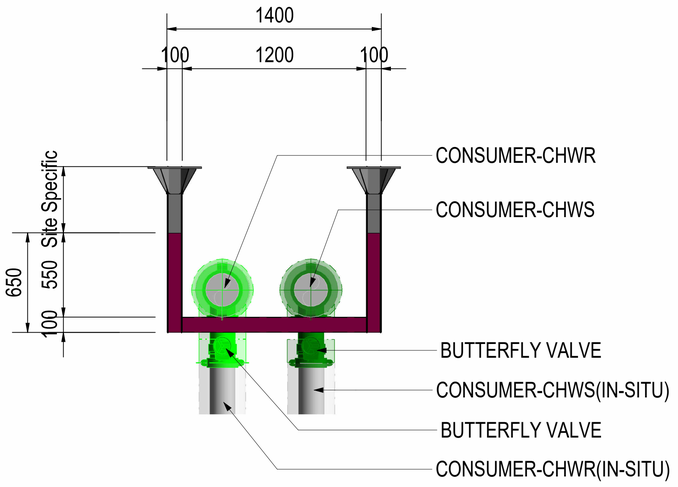


02 Module M5-A - 3D



03 Module M5-A - Front View

1 : 20



04 Module M5-A - Side View

1 : 20

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

THIS DRAWING IS GENERATED FROM REVIT MODEL

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M5-A

Drawing No. SC/M/005A

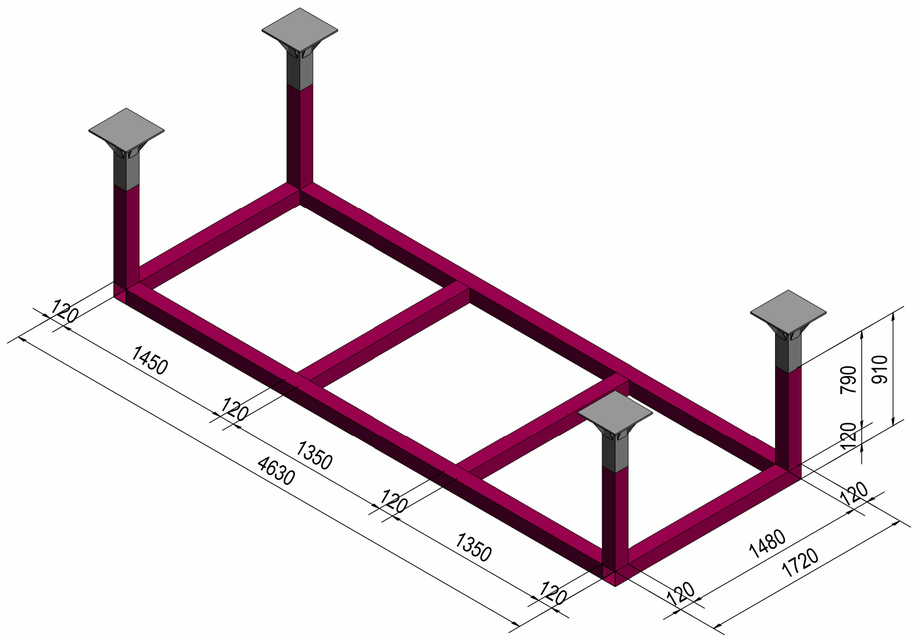
Revision B

Scale A1 1 : 20

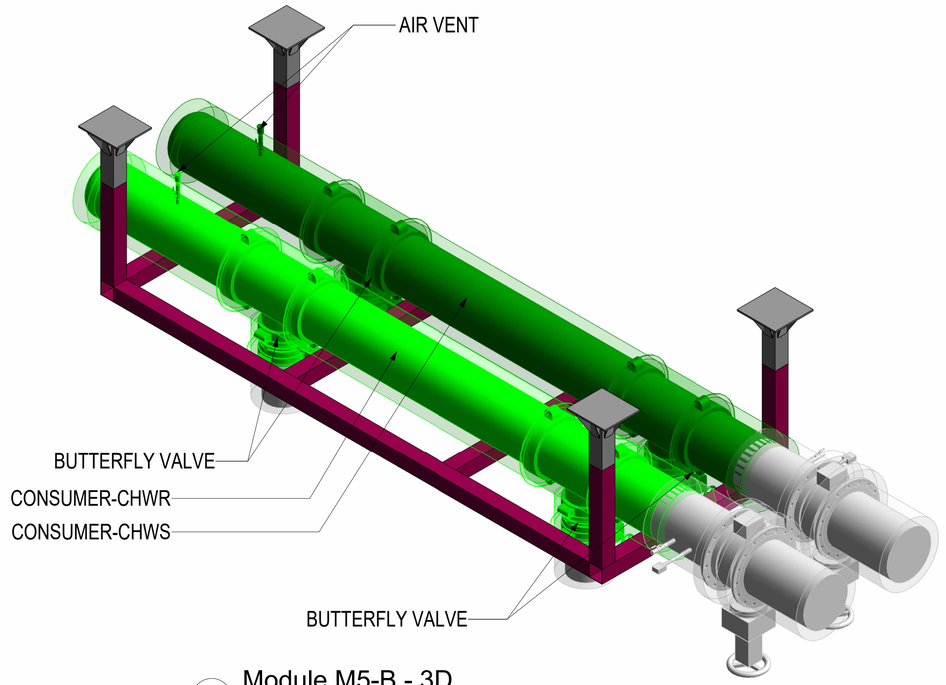
Client 機電工程署 EMSD

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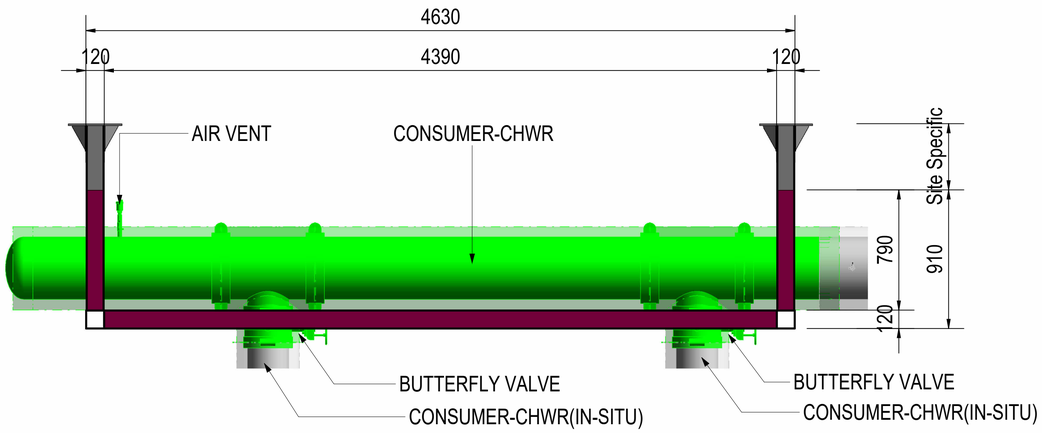
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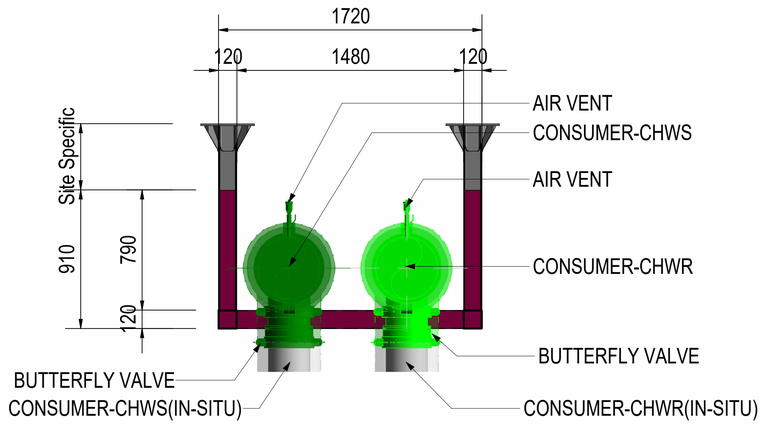
01 Module M5-B - Frame



02 Module M5-B - 3D



03 Module M5-B - Front View
1 : 20



04 Module M5-B - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT
OF SUBSTATION
MODULE M5-B

Drawing No.	Revision
SC/M/005B	B

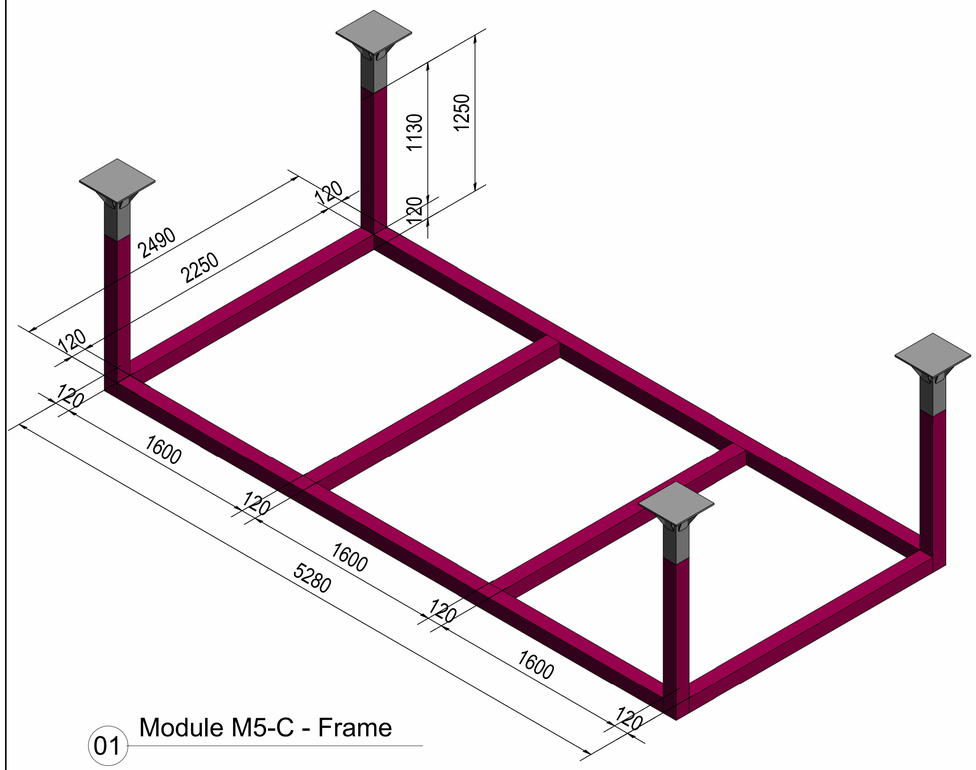
Scale: A1 1 : 20

Client: 機電工程署 EMSD

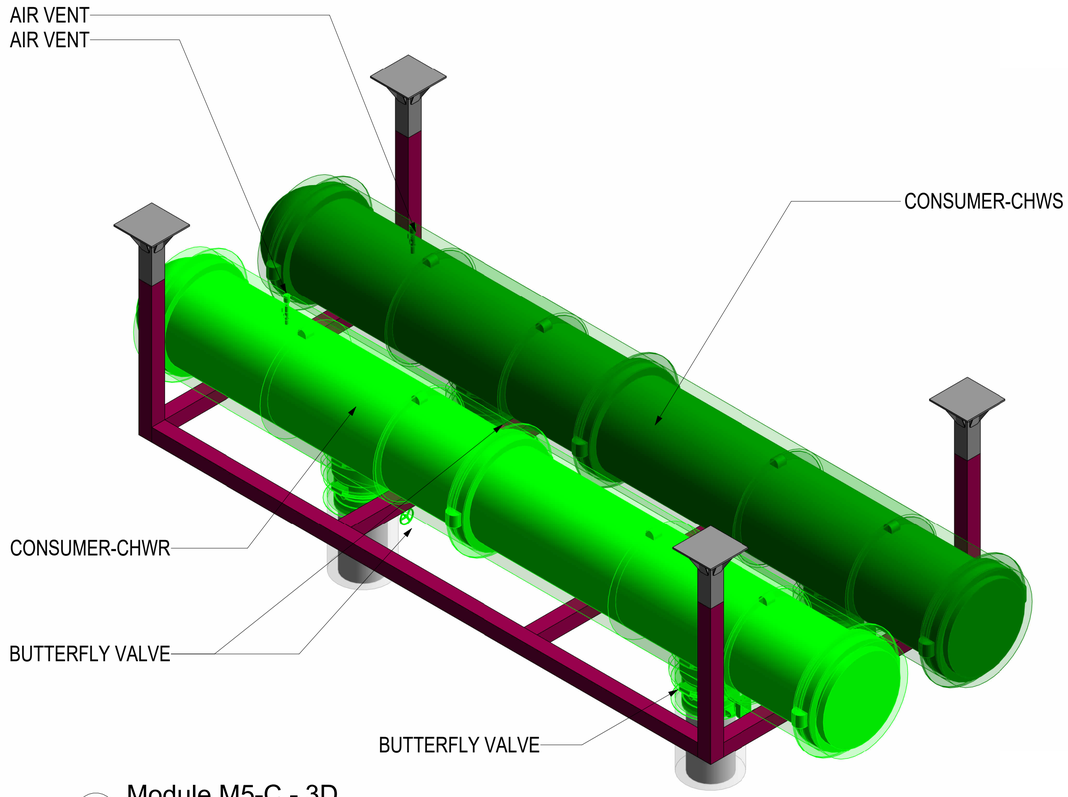
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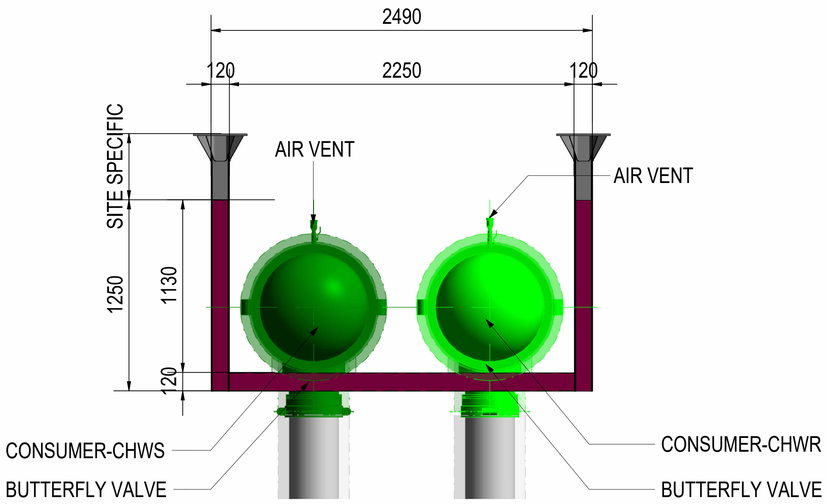
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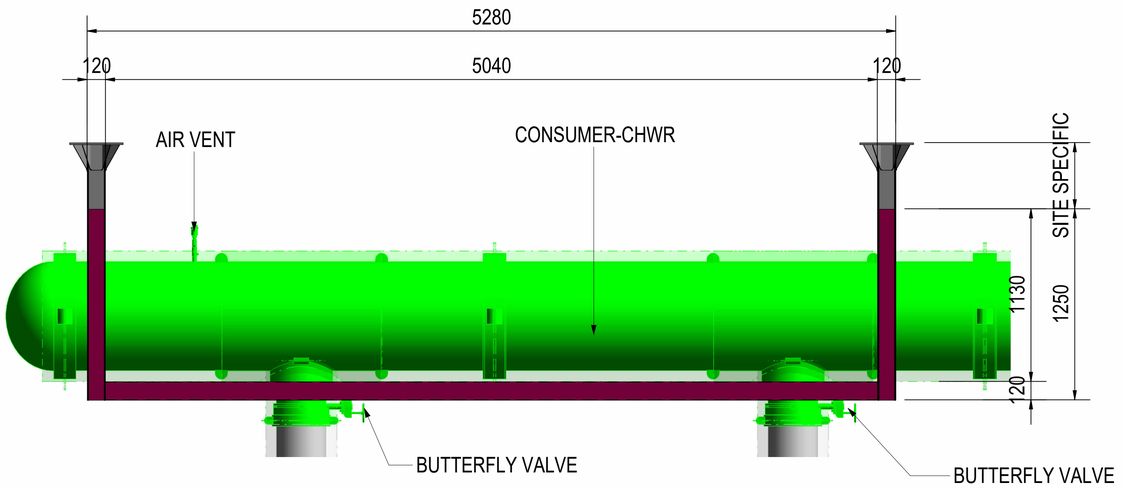
01 Module M5-C - Frame



02 Module M5-C - 3D



03 Module M5-C - Front View
1 : 20



04 Module M5-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M5-C

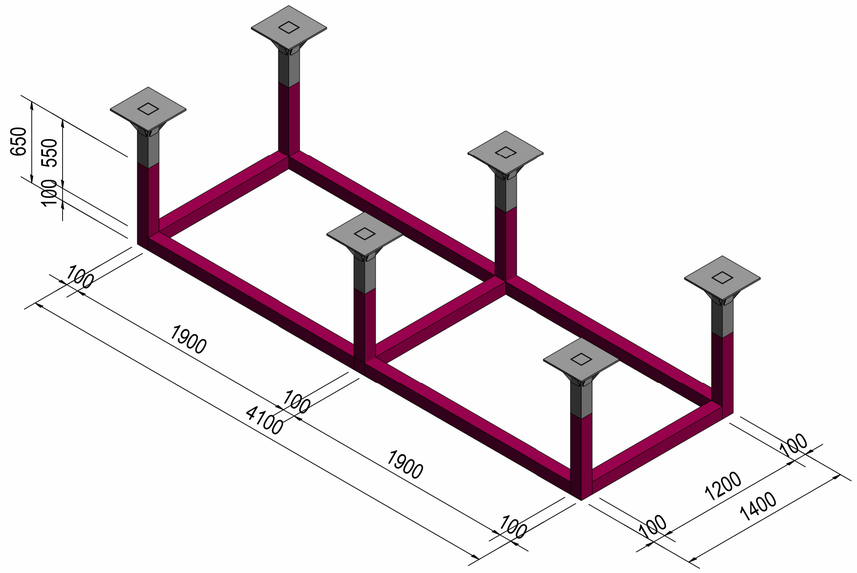
Drawing No.	Revision
SC/M/005C	B

Scale: A1 1 : 20

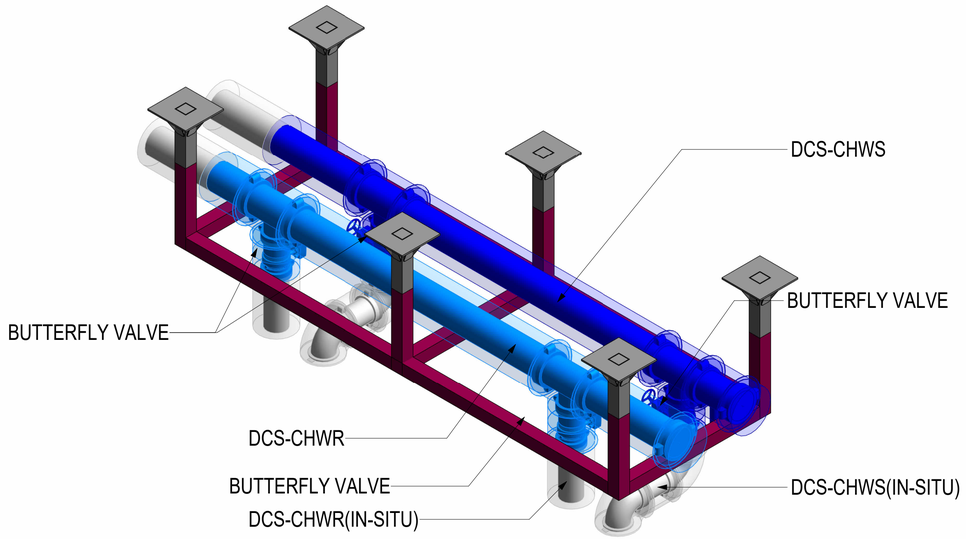
Client: 機電工程署 EMSD

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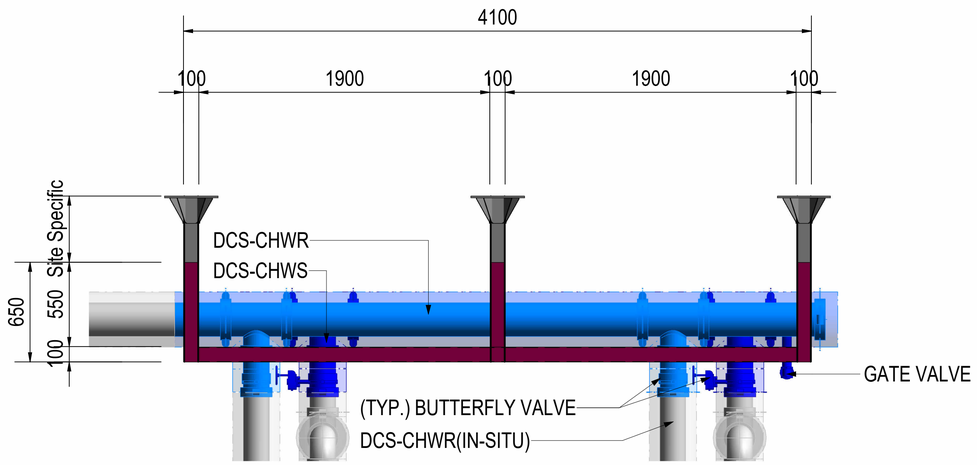
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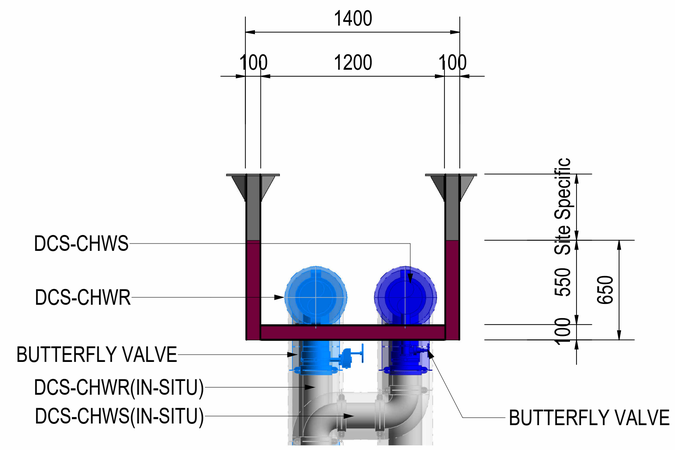
01 Module M6-A - Frame



02 Module M6-A - 3D



03 Module M6-A - Front View
1 : 20



04 Module M6-A - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M6-A

Drawing No.	Revision
SC/M/006A	B

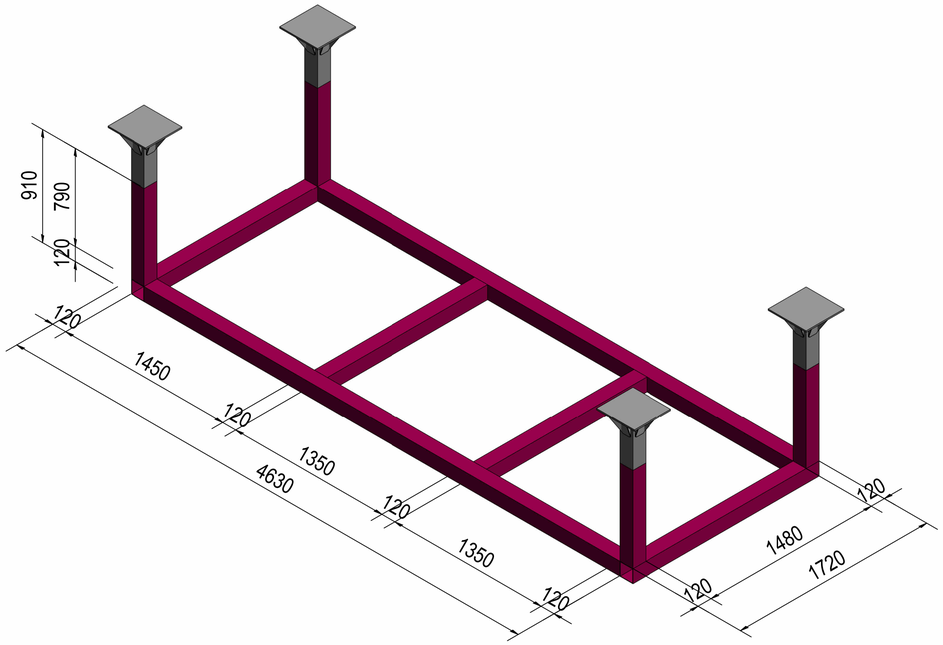
Scale: A1 1 : 20

Client: 機電工程署 EMSD

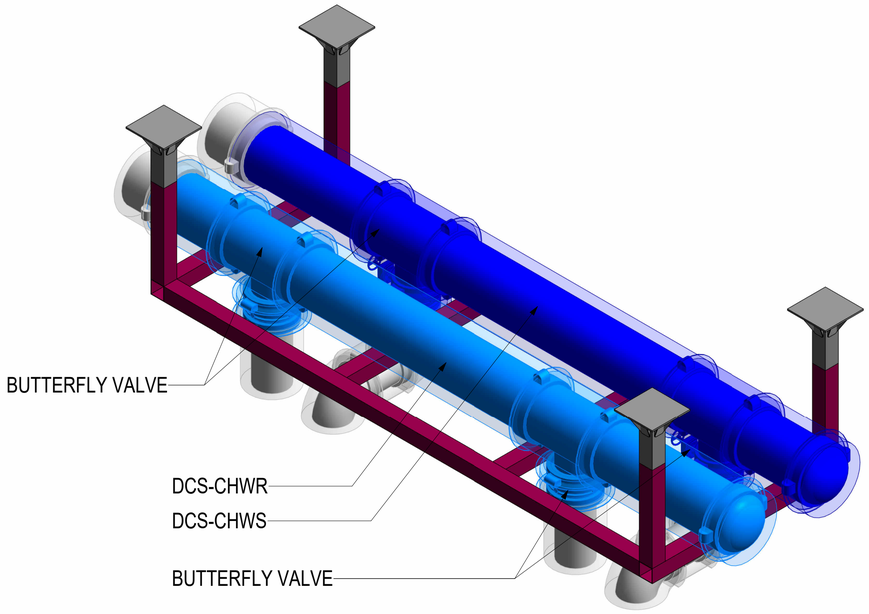
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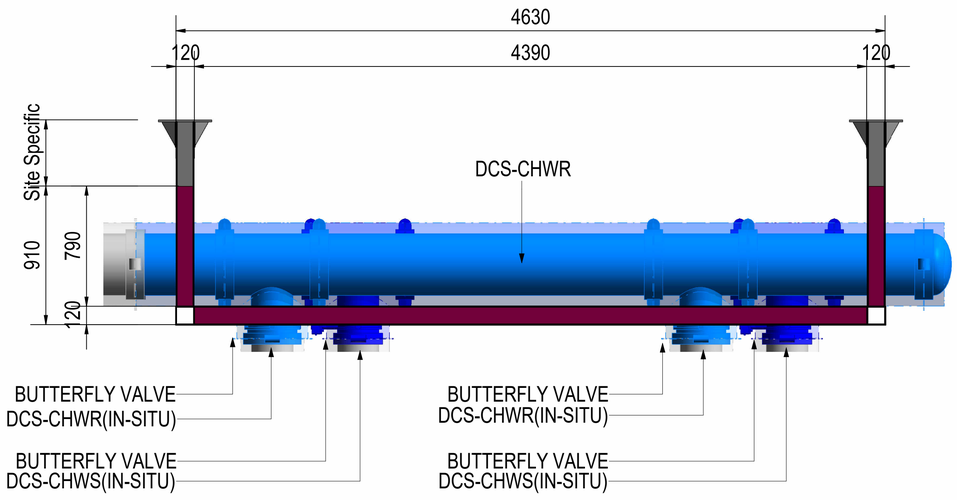
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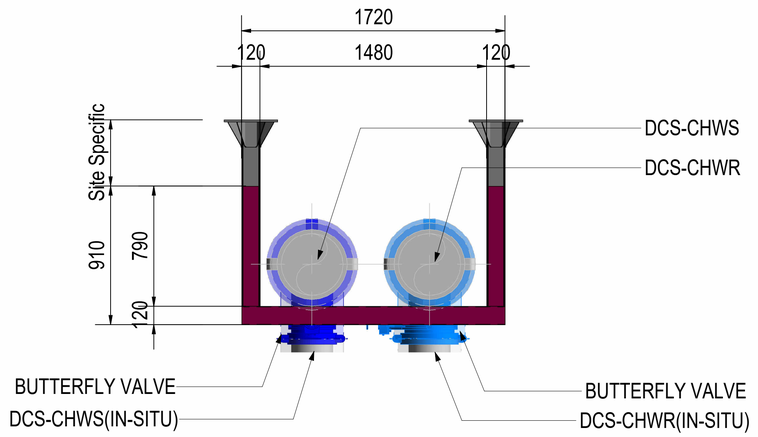
01 Module M6-B - Frame



02 Module M6-B - 3D



03 Module M6-B - Front View
1 : 20



04 Module M6-B - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1B & 2B
3. Module 5B
4. Module 6B
5. Module 4B
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

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Drawing Title
GENERAL ARRANGEMENT
OF SUBSTATION
MODULE M6-B

Drawing No. SC/M/006B

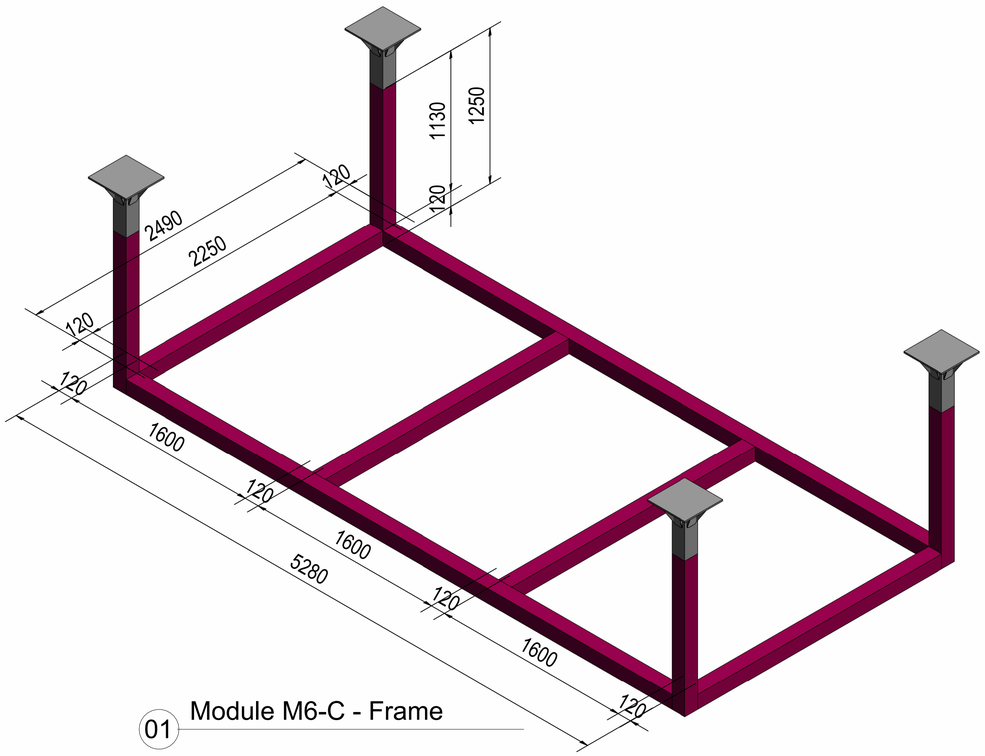
Revision B

Scale A1 1 : 20

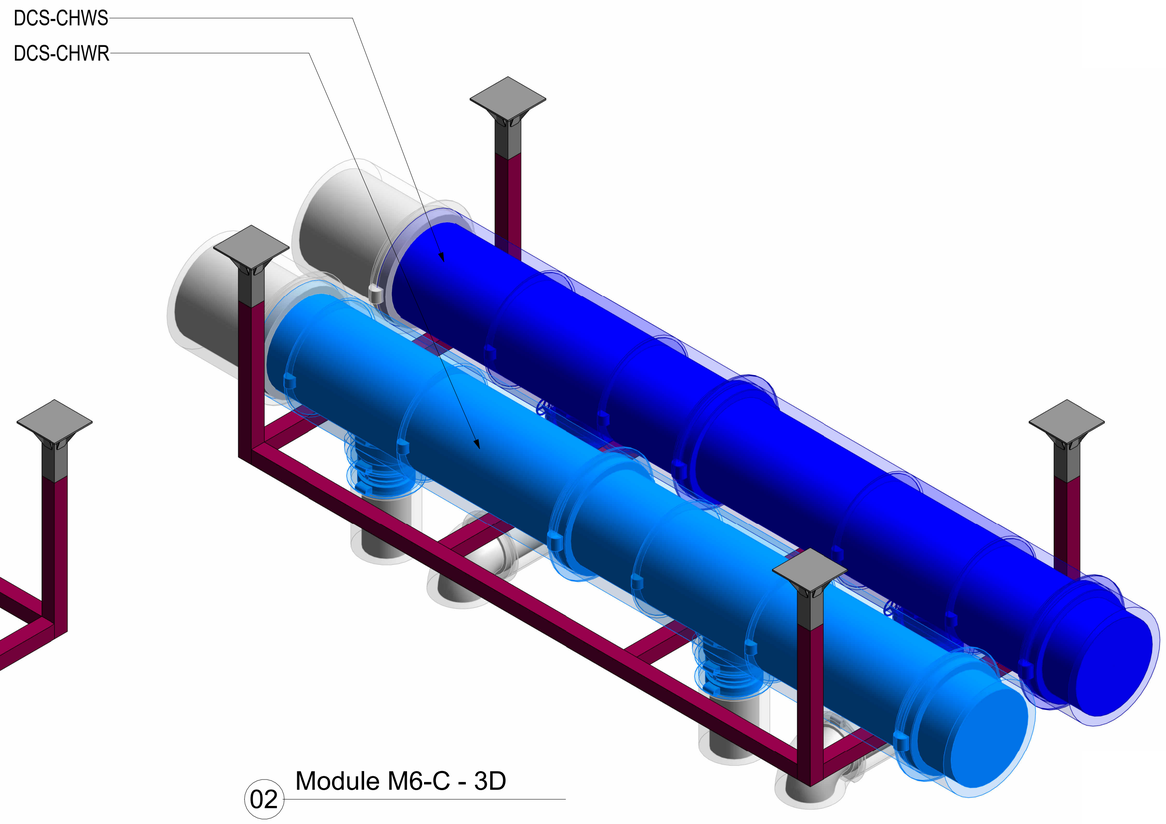
Client 機電工程署 EMSD

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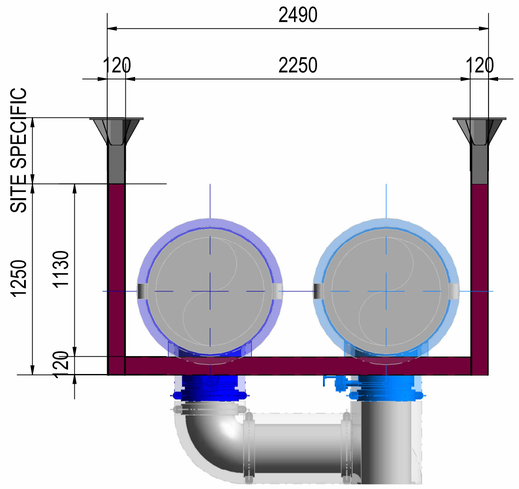
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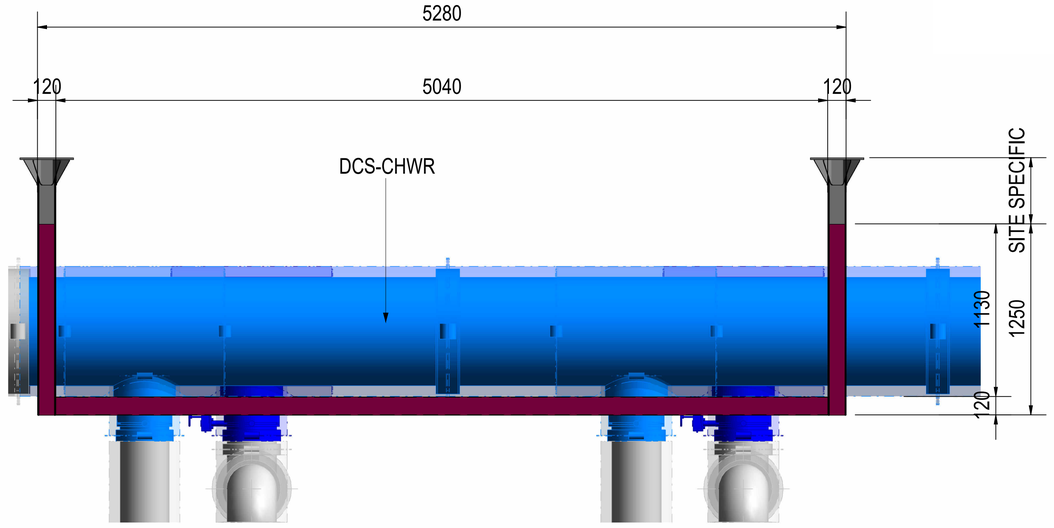
01 Module M6-C - Frame



02 Module M6-C - 3D



03 Module M6-C - Front View
1 : 20



04 Module M6-C - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 120x120x6.3mm thk. SHS, subject to contractor's design

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Recommend Installation Sequence:

1. Lead-in
2. Module 1C, 2C & 3C
3. Module 6C
4. Module 5C
5. Module 4C
6. Remaining in-situ pipework
7. Plate Heat Exchanger (PHE)
8. Connection to PHE
9. Module 7A

Drawing Title

GENERAL ARRANGEMENT OF SUBSTATION MODULE M6-C

Drawing No.	Revision
SC/M/006C	B

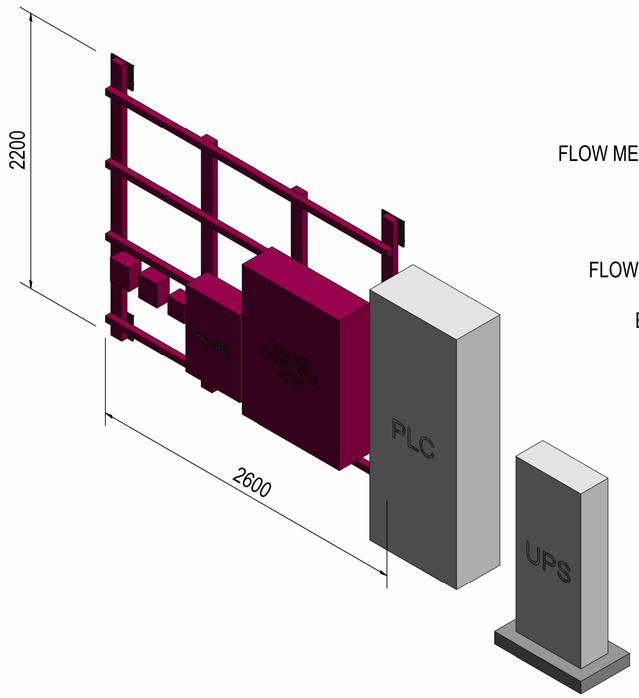
Scale: A1 1 : 20

Client: 機電工程署 EMSD

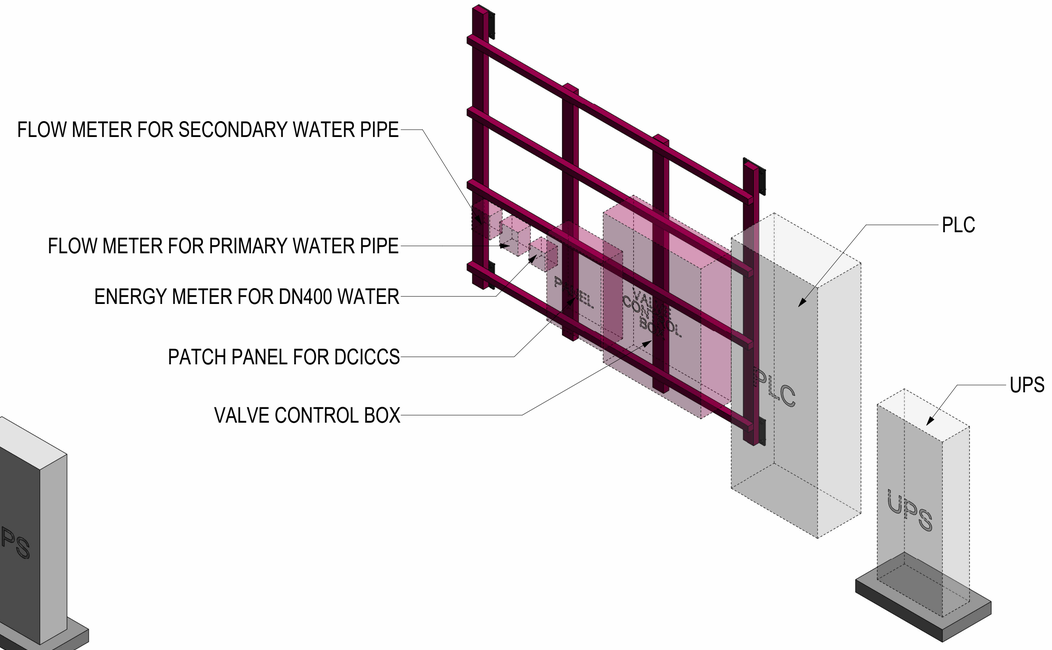
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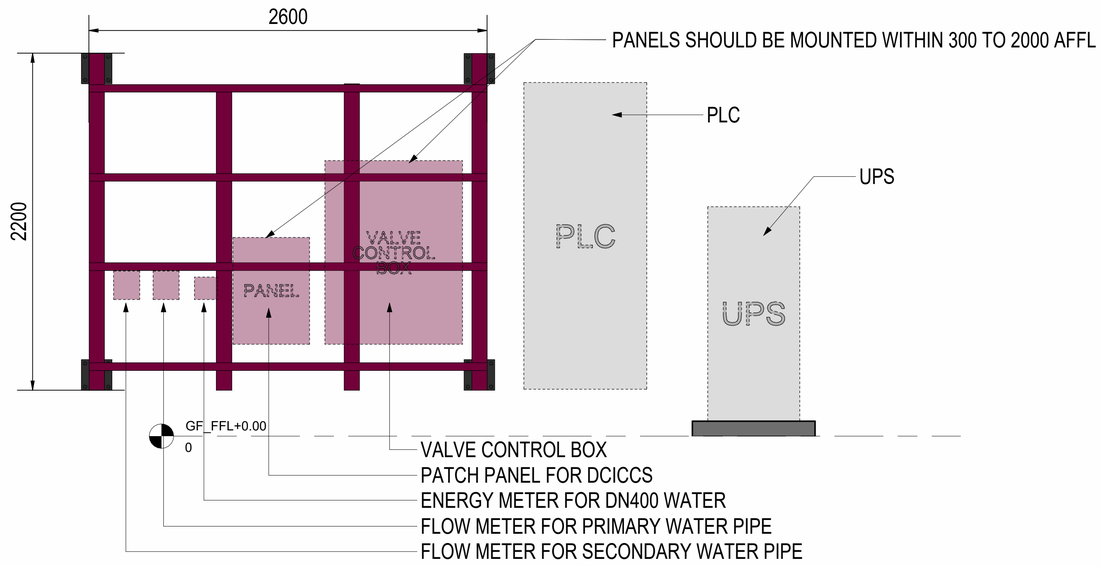
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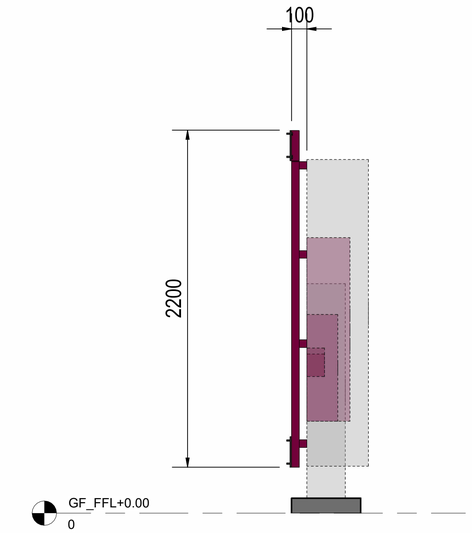
01 Module M7 - Frame



02 Module M7 - 3D



03 Module M7 - Front View
1 : 20



04 Module M7 - Side View
1 : 20

GENERAL NOTES:

All steel members are assumed to be 100x100x4mm thk. SHS, subject to contractor's design

The Module M7 is for reference only. The Contractor shall refine the modular design to tally with the selected type and size of panels.

LEGEND:

- Module Frame
- Demountable Module Frame for Delivery
- In-Situ Mounting Support
- In-Situ Pipeworks, Fittings and Accessories

Drawing Title
GENERAL ARRANGEMENT OF SUBSTATION MODULE M7

Drawing No.	Revision
SC/M/007A	B

Scale
A1 1 : 20

Client
機電工程署 EMSD

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EMSD

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