

# Design & Access Statement

## University College London Queen Square House Third Floor Refurbishments

Our project ref: 6773

Full application for the following alterations:

- Installation of condenser unit next to existing plant
- Pipework outlets/window replacement to Third floor plant room

### Revision Information

Rev.	Detail	Date	Prepared
DR1	Draft for initial review	2022-06-07	sg
P01	Issued for planning application	2022-06-30	sg

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# 01 Introduction

## a) Objective

This application, relating to the refurbishments being undertaken within the Third floor of UCL Queen Square House, intends to set out in general terms aspects of the proposals that will require planning consent, with a view to obtaining full planning permission for the works. Please refer to the attached drawings for full detail of the proposed works – this statement should be read in contingency with this information.

No drawings are to scale within the report, unless specifically stated. Please refer to the accompanying drawings for scaled figures.

## b) Building History and Existing Condition

The existing Queen Square House is a concrete frame building constructed in the 1970s, comprising 10 storeys originally designed for laboratory research functions. Its footprint at ground floor is approximately 1100m<sup>2</sup>. The building is not listed by Historic England.

A standardised – typical - floor layout above ground floor is replicated on every level with some variance in partition layout and room sizes; each has the same structural and services characteristics. The Third floor plan does not deviate from this, as can be seen within the associated third level floor plans.

Some external photos of the building and its external areas in its current state:



Front entrance from Queen Anne's Walk



View of Queen Anne's Walk, entrance left



Corner approach junction Guildford St. – Queen Anne's Walk



Guildford St. Elevation

The building occupies a corner plot location between Guildford Street and Queen Anne's Walk. The massing of Queen Square House and adjacent NHNN buildings results in a 'well' between, as indicated below with red outline:



## c) Previous Planning Applications

The following approved relevant and similar planning applications have been made to the Queen Square House building and flanks:

- Application no. 207/1937/P [Approved]: *Erection of block wall and metal louvers enclosure at ground level adjoining the service yard access off Guilford Street to accommodate new plant associated with a new Functional Magnetic Resonance Scanner located at basement level.*
- Application no. 2009/4974/P [Approved]: *Erection of plant to flat roof on the north east corner of hospital building (Class C2) fronting Guilford Street.*
- Application no. 2021/5687/P [Approved]: *Installation of a new air handling unit (AHU) and associated support gantry....*

Those above relate primarily to plant-related modifications. Two other applications have been made for building however were lodged in the 1960s are not of similar nature to the works proposed.

This application is for works to be undertaken in areas nearby to the areas in the latter application (ref 2021/5687/P), which was granted full planning consent 14<sup>th</sup> January 2021. The works proposed in this application do not superseded or replace those that have already been granted consent, and are shown to be installed within the existing drawings for this application as these works are currently underway.

## d) Purpose of Application

The main drive for the project is to provide additional research space to accommodate the UK Dementia Research Institute (DRI). The brief identified the need for a mix of laboratory, write up and office space.

To deliver these spaces, plant alterations are required which will result in the following external alterations:

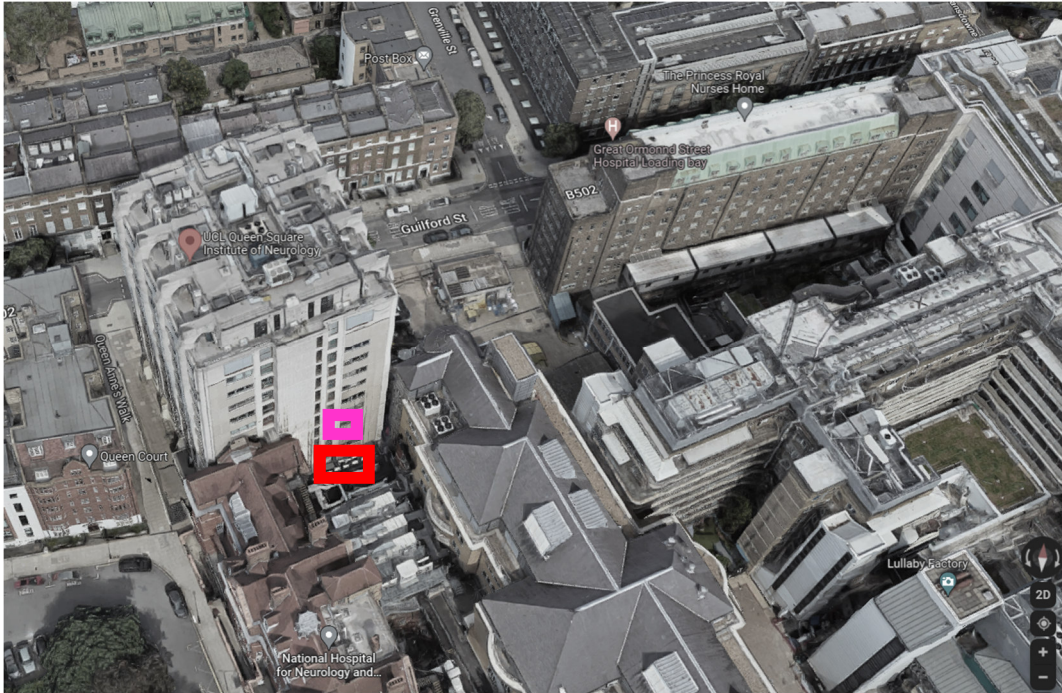
- Installation of a close control unit condenser unit on the Gilliat Lecture Theatre roof
- Venting of medical gas pipes externally through existing window

These amendments are set out in greater detail within the following statement sections.

# 02 Design Statement

## a) Overview

The below satellite image illustrates in overview the two main areas within the scope of alterations (outlined in red):



Satellite image indicating areas where alterations are proposed (not to scale)

The topmost magenta outline generally indicates the medical gas pipe outlets and replacement perspex window panel, the lower red outline indicates the condenser location.

## b) Proposed Plans

Please refer to relevant drawings:

- **6773-A(22)12** / Lower Roof Plan – Proposed Condenser and Window Infill Panel Location
- **7022-L(1-37)** / Third Floor Existing GA Plan
- **7022-L(1-38)** / Third Floor Proposed GA Plan
- **6773-L(00)21** / Site and Location Plans
- **6773-L(2-12)** / North and West Locations - Existing
- **6773-L(2-13)** / South and East Locations - Existing
- **6773-L(2-17)** / North and West Locations - Proposed
- **6773-L(2-18)** / South and East Locations – Proposed
- **6773-SK013** / Window Panel Sketch

## c) Photo Overlays, Visibility from Roadways

As noted above, a new condenser is required to serve the new close control unit, which is crucial to operation of the lab spaces. This will be located externally and directly above the existing lecture theatre. Please refer to drawing **A(22)12: Lower Roof Plan – Proposed condenser and window...**, which demonstrates the proposals in 1:50 plan and enlarged elevations.

It can be seen that this location is within a ‘well’ formed between three buildings (Queen Square House and two wings of the NHNN building), and so will not be directly visible from the main aspects from the main West elevation from Queen Street, nor from the North side of the building along Guildford Street. This is demonstrated within photograph imagery below.

The photograph below (taken from the Gilliat lecture theatre roof, at First floor) indicates the two locations where the external alterations are proposed.



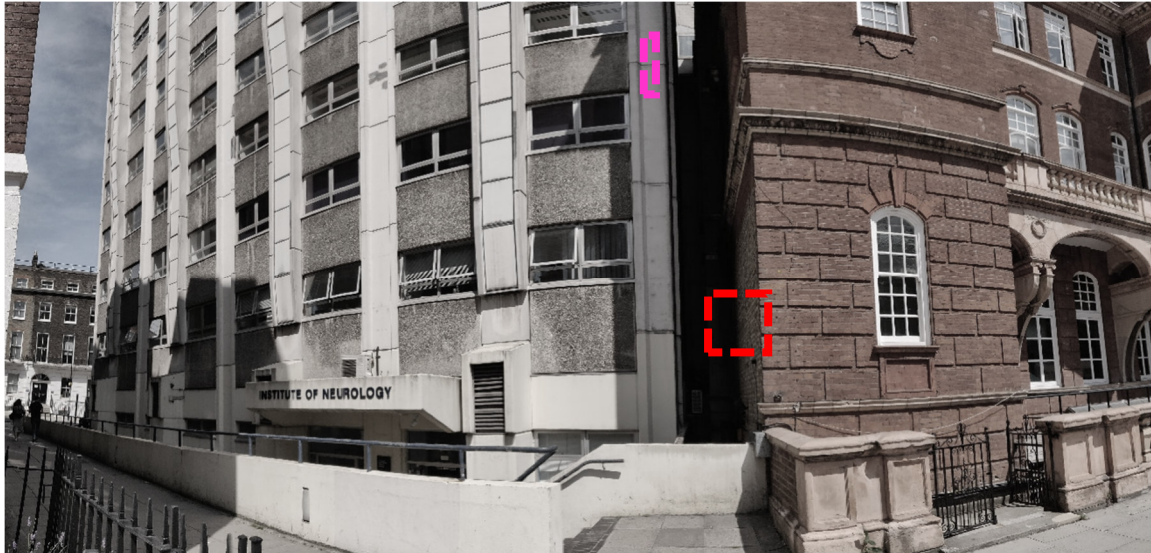
Photo overlay indicating proposed condenser unit (red) and medical gas pipework (magenta) approximate locations

The condenser is to be located in a freely accessible location, and in a position not adversely affecting access to a number of existing condenser units adjacent (as illustrated in photo above). It should be noted that high precision 3-dimensional pointcloud surveys were undertaken to verify that adequate space is allocated for the unit to be installed and accessed for maintenance. Condenser refrigerant pipework will run from the unit into the building as shown above, entering the building at the same location as existing pipework (red arrow above). The external pipe run has been kept to a minimal extent so as to reduce the visual impact, and no works at height will be required during install.

With regards to visibility towards the proposed alterations, given their locations within the 'well', it is not possible to obtain a direct view from the public highway from Queen Square. There are narrow voids formed between QSH and the NHNN buildings adjacent, and where the NHNN facility comprises a number of separate building extensions its massing varies at each elevation. The void to the Queen Square fronting spans four storeys; the void towards the service yard to the rear of the building and nearest Guildford Street spans six storeys. Given the shadowing that conceals the void spaces, neither the condenser unit nor window infill panel will be visible when viewing from either Queen Square or Guildford Street.

## Views from Queen Square

The photo illustration below illustrates this with the approximate proposed location (behind) dotted on for clarity:



Nearby view from pavement junction between Queen Square and Queen Anne's Walk

It should be noted that none of the existing condensers located on the roof 'parapet' upstand (adjacent the new unit proposed) are visible from either Queens Square or Guildford Street. The medical gas pipework outlets will not be visible due to the viewing angle from the road, as well as the building massing whereby the North 'wing' recesses back from the stairwell flank. The proposals therefore do not adversely impact on the primary view towards the red brick NHNN building from Queen Square.



General view from Queen Square pavement, set at the only angle where light can be seen between the QSH and NHNN buildings (note: the medigas pipework would be out of shot and just above photo crop)

## Views from Guildford Street

The oblique closing angle between the silver-clad NHNN building and Queen Square house inhibits views to the condenser unit and medical gas pipework from the Guildford Street public highway; is not possible to obtain a direct view at any point along the road. Even within the service yard to the rear of the building and away from the public realm, the viewing angle from any location is such that the unit cannot be visible from Ground floor level.

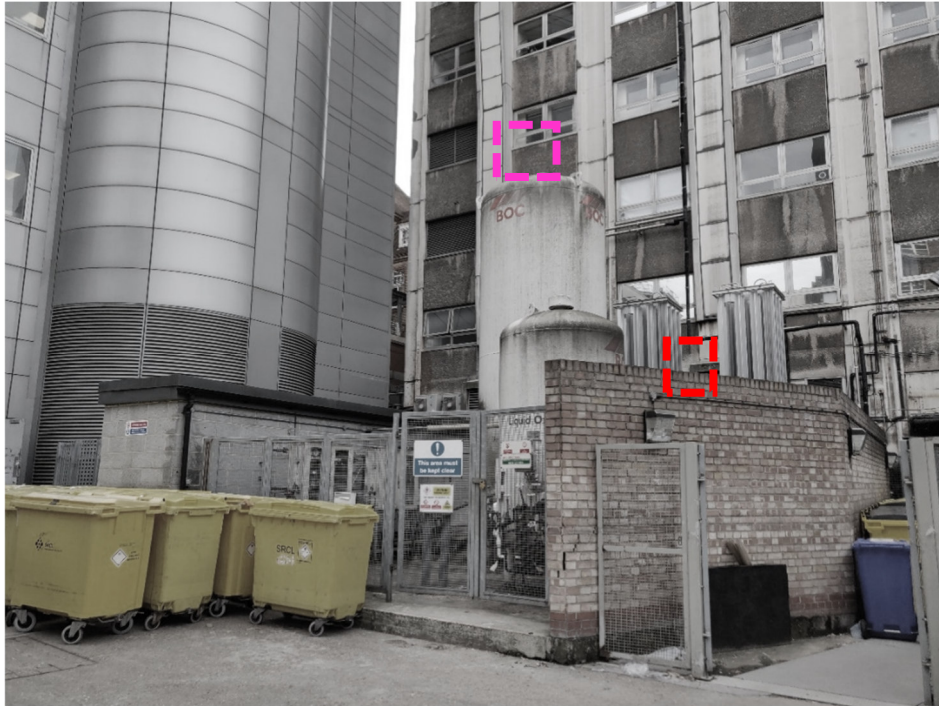


Figure indicating in dotted lines the concealed condenser unit location behind Queen Square House and within the 'well'

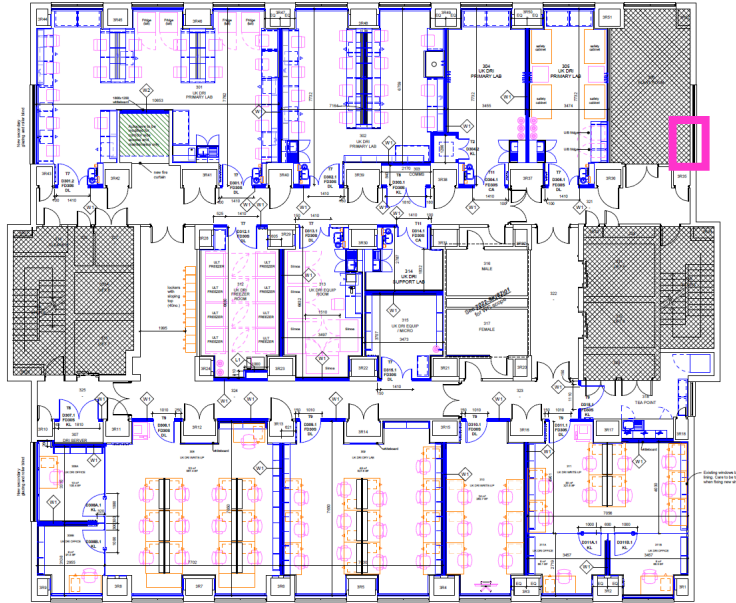
## d) Materiality

### Condenser Unit

The proposed condenser unit will be of metal external casing, and as-supplied in a white polyester powdercoated finish. The installation method will be as manufacturer's recommendations: on a plinth base and so as to prevent damage to the existing roofing membrane. The refrigerant pipework will be black in colour with matt finish, which will match existing services in the area.

### Window Panel Replacement for Medical Gas Pipework

Where medical gas pipework must be externally vented from plant room 306 (top-right of view in associated drawing **7022-L(1)-28**, extract below), it was determined that routing via an existing window would be a less intrusive solution than to core drill through the external wall buildup. The lower pane of the existing window system within the plant room is non-opening and therefore removing the glass panel would not affect the window opening. It is not possible to create openings within the window pane without shattering the glass, and therefore will need to be replaced with perspex which will be identical in appearance to the existing single glazing. The perspex panel will be made weatherproof using appropriate seals. It should be noted the plant space has external louvres and therefore the substitution of glass for perspex has no bearing on the thermal performance of the space (which is unheated).



Third floor proposed plan extract (not to scale), proposed medigas outlet location indicated by magenta outline

There will be no end-user impact to views out from this space as the alterations are within a plant room that is accessed only intermittently, and by maintenance staff to repair or maintain plant equipment.



Internal window within third floor within Queen Square House (above) with proposed replacement Perspex panel location dashed

The medical gas pipework will vent to atmosphere, the pipes terminating no more than 100mm beyond the existing window sill directly below the pipes. The outlet location has been carefully reviewed to ensure it is an appropriate distance away from any fresh air intakes to the building. Associated sketch **6773-SK013** indicates the medical gas pipework routes internally.

### e) Acoustic Impact

The proposed condenser unit specification / product data sheets are appended to this statement. A background noise survey was produced in March 2020, this is attached for reference and it should be noted that the contractor will be required to undertake post-completion noise surveys to verify that the new condenser unit will emit 10dB less than the current noise emitted from the plant in that lightwell. This effectively means that the current plant noise emissions from that area will not change in any way.

## 03 Access Statement

### a. Access Statement

Current access arrangements to the existing plant are via a cat ladder to the Gilliatt lecture theatre roof. As noted above, the condenser location at roof level has been considered so as to allow access to the existing condenser units along with the new proposed unit and manufacturer minimum clearance requirements are achieved.

Neither the medical gas pipework terminations nor Perspex panel will need to be maintained, therefore external access is not required to these new elements.

### b. Maintenance Statement

The new condenser unit is additional to 10 no. existing condenser units in that location and so no new access strategies are required; the plant will be maintained as part of the client's existing protocols. The condenser does not require especially regular access and inspection intervals are annual. Should the unit need to be replaced, it would be hoisted onto the lecture theatre roof from the building service yard in line with client-reviewed and approved Risk Assessment and Mitigation Strategies (RAMS) that are appropriate and suitable for the weight and size of the unit.

The new perspex panel external face does not require any alterations from the existing façade cleaning regimens that are undertaken by the university. Of note, the new panel can be reached within 9 metres of the Gilliat lecture theatre roof and as such can be reached by water-fed pole for cleaning, where maximum reachable heights are in the remit of 20m.

### c. Health & Safety Statement

Safety is always of paramount importance when considering the access and maintenance strategy of new proposals. Where this report identifies some outline safe methods of working and installation, review of RAMS will be required for any works that present a risk to health and safety throughout the project to ensure the appropriate installation and maintenance strategies are in place prior to starting any works. UCL employ stringent H&S review processes throughout the project lifecycle and regular meetings include agenda items to review H&S elements.

It should be noted that where the works are due to be undertaken at lower roof level, there is kee-klamp guard railing in place at the roof perimeter. The contractor is fully aware of the limited access to roof level as well as guard railing locations, and as noted above will be required to submit RAMS prior to works starting in these areas.

As mentioned earlier in the statement, the condenser refrigerant external pipe run has been kept to a minimal extent so as to mitigate the need to undertake works at height during install in a view towards health and safety. Works to install the perspex replacement panel can be undertaken externally so that works at height are not required. The opening size when the lower glazing panel is removed is not so large so as to allow persons to fall through – risks such as dropping tools from above (onto works areas below where the condenser will be installed) are to be closely managed by the contractor who will maintain ownership of both site areas.

## 04 Sustainability

### a) Mini-SKA Tracker

UCL requires in all its projects that sustainable design is implemented with a view to utilising environmentally-friendly systems and materials in the installations. Due to the size of this project, a 'mini' (rather than full) SKA tracker is utilised to demonstrate that sustainability is considered across several facets of the design, and which extends to new plant installations. This has been reviewed by the university sustainability officers who have provided comment and are now satisfied that the proposals are in line with their sustainability criteria.

Lab areas are viewed in separate measure to more commonplace accommodation (offices, teaching spaces etc.) where lab spaces are more demanding particularly from a building service viewpoint.

## 05 Summary

We recommend that the proposals are approved as in overall terms the proposals are minor in nature, and are as they are not visible from any public highway would result in no condition adverse to the existing appearance of the building and local surrounding areas.

The proposed materials are to be robust, and will be visually continuous to adjacent elements in each case.

The installations are non-intrusive to the existing building fabric, and would allow the installation of new laboratory space that is integral to the development of cutting-edge medical research.

## 06 Appendices

- 1) 6773-SK013: Medical Gas Pipework / Window Panel Sketch

**6773-SK013**

Medical Gas Pipework / Window Panel Sketch  
rev P02 / Wilson Mason / S. Gillies

6 x pipes @  
15mm dia. each

pipes fixed to  
plant room wall



Infill this non-opening glazed  
panel with perspex so as to allow  
pipe outlet penetrations. Pipes  
vent externally max 100mm  
protrusion from window sill.

pipes stacked so as not to  
prevent access to the room  
or any maintenance

## 2) Proposed Condenser Specification

Ver. 3.3.0.279 - 28/01/2021

Air inlet temp.	[°C]	35.0
Condensing temp.	[°C]	45.0
Temperature of the hot gas	[°C]	80.0
<b>Subcooling</b>	<b>[K]</b>	<b>0</b>
Refrigerant		R410A
Sea level	[m]	0
Version		Horizontal

**Power supply: 230V-1PH-50Hz**

<b>Capacity</b>	<b>[kW]</b>	<b>7.6</b>
Air quantity	[m3/h]	2,420
Energetic efficiency class		D
Power consumpt.	[W]	160
Power consumpt.	[A]	1.0
Max fans absorption	[A]	1.4
Fans speed	[1/min]	1,475
S.P.L. (distance 10 [m] )	[dB(A)]	41
Sound Power Level	[dB(A)]	72

Fans:	[mm]	1 x 350	Weight	[kg]	27
Pole :	[n]	<b>EC FANS</b>	Inlet connect.	[n] x [mm]	1 x 16
Fin spacing:	[mm]	1,8	Outlet	[n] x [mm]	1 x 16
Volume	[dm3]	1.00	Circuit	[n]	9 x 1
Surface	[m2]	18.8	Overall dims.	[mm]	871 x 548 x 811
Frame material	Galvanized steel powder coated RAL 9003		Fins material	Al	
Header material	Cu		Tube material	Cu	

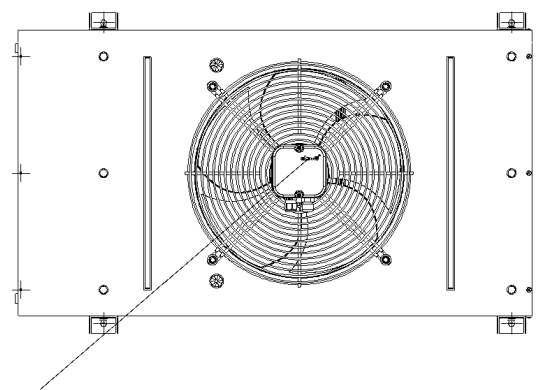
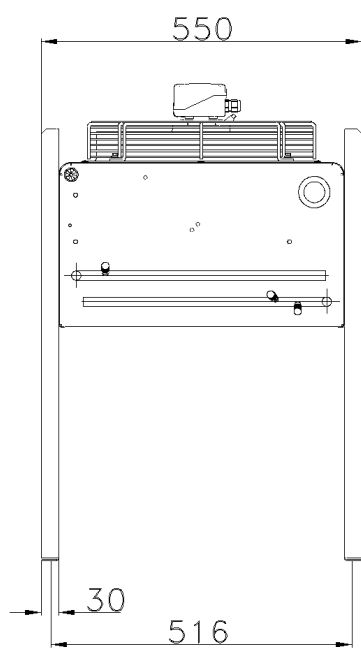
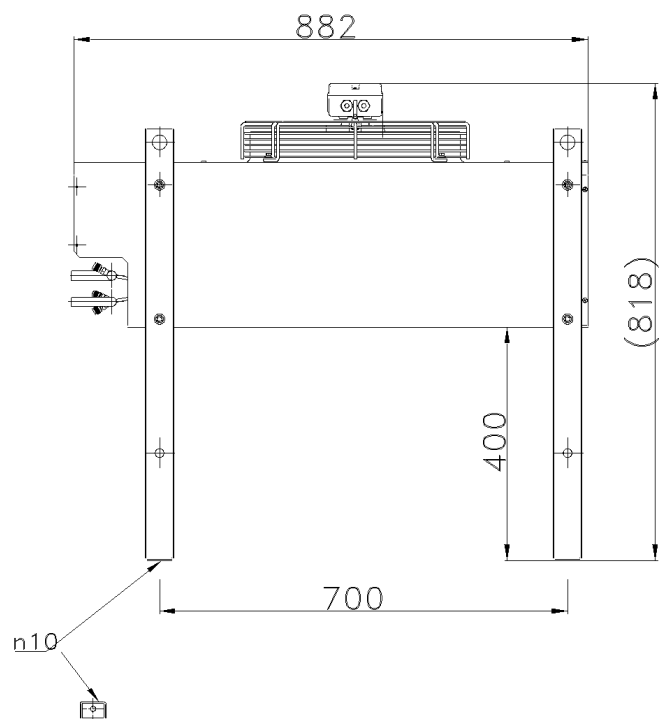
\* Refer to SYSTEMAIR catalogues for details, way of data declaration and standards. Noise level according to EN 13487. The weight and the dimensions are not valid for all the possible configurations. All fans are ErP-compliant (Directive 2009/125/EC Energy-related products) ATTENTION: contact always SYSTEMAIR before matching a regulation not supplied by SYSTEMAIR.

New electronic EC fan, allowing important energy saving. Self protected, suitable for regulation by signal 0-10 VdC or BUS RS485.

**SOUND POWER LEVEL**

	Tot.	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
230V-1PH-50Hz [dB(A)]	72	48	50	54	64	70	62	55	46

**Data refers to one fan. IMPORTANT: data tolerance in the sound spectrum is higher ( $\pm 5$  dBA) than the combined pressure and power spectrum, with greater variation at low frequencies.**



Date	01-02-18	Type: TMC 11 (EC) H
Scale	1:1	Code: 10154774
		SYSTEMAIR

Drawing referred to a machine in standard configuration, the accessories are not indicated.  
ATTENTION, in the drawing is not indicated the accessory special headers and circuiting for R410A.