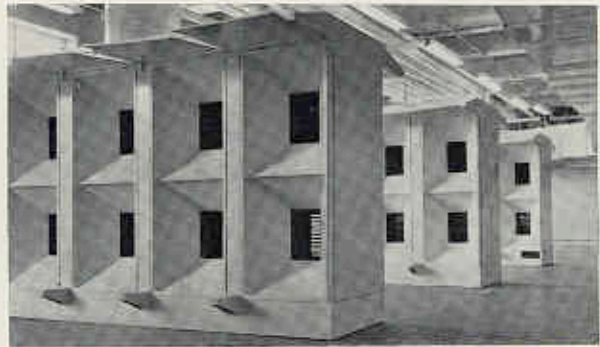




CONFECTIONERY STORAGE & DISTRIBUTION DEPOT, CADBURY BROS. LTD., ILKESTON.

This depot is served by a high velocity single duct warm air ventilation system having overhead distribution ducts and high pressure diffusers. This type of system provides an economical means of providing air treatment to large, open-plan areas.



MOGUL STACKING UNITS, CADBURY BROS. LTD., MORETON.

Located within a fully air conditioned space these stacking units are provided with an accelerated air treatment system to process part finished goods.



CLOSE CONTROLLED TEMPERATURE ROOM, CADBURY BROS. LTD., MORETON.

An air treatment system is provided to maintain the desired temperature within close tolerances throughout the treated space.



AIR CONDITIONING PLANT ROOM, ROWNTREE AND COMPANY LTD., YORK.

The refrigeration plant illustrated serves the 'Black Magic' packing room and comprises two reciprocating compressor units working with a matching evaporative condenser.



CONFECTIONERY PROCESS COOLER, CADBURY BROS. LTD., MORETON.

This process conveyor is conditioned by compact self-contained air conditioning plants to provide controlled conditions required during product manufacture. The conveyor itself is located within a fully air conditioned enclosure.

The confectionery industry

Air conditioning has become an essential part of the processes in confectionery manufacture. It has been shown to result in lower production costs with increased uniformity and quality of the product. Output has also increased by the improved productivity of the workers.

Storage depots in particular have benefitted from air conditioning in preventing deterioration of stock through temperature variations and disease.

By control of the environment at all stages of manu-

facture, it is possible to influence such processes as crystallisation and solidification so that the quality of the product can be guaranteed.

Some of the departments and processes which currently rely on air conditioning include raw commodity storage, hot and cold rooms, dipping rooms, cooling tunnels, coating kettles, enrobing, wrapping and packing, long-term storage, and short-term storage at the distribution depots.



CONFECTIONERY PACKING AREA, CADBURY BROS. LTD., MORETON.

A single duct high velocity air conditioning plant serves the area shown which is part of a 5 acre fully conditioned building. Duct sizes are kept to a minimum by employing air speeds up to 5000 ft/min and using special high pressure diffuser supply outlets.



CONFECTIONERY COLD STORE, CADBURY BROS. LTD., MORETON.

Air conditioning is provided to six confectionery storage areas, similar to the one illustrated, and comprises a low velocity duct system with direct expansion refrigeration plant with defrosting arrangements, giving controlled temperature and humidity conditions.



MODULAR OPERATING THEATRE AT HAMMERSMITH HOSPITAL FOR MEDICAL APPARATUS DIVISION OF HONEYWELL CONTROLS LTD.

The air conditioning provides 100% fresh air which is passed through prefilters and absolute filters, and heated, cooled, humidified or dehumidified as necessary to maintain desired conditions within the theatre.



BRITISH MILITARY HOSPITAL, DHEKELIA.

Brightside carried out the air conditioning installation and hot water services throughout the hospital including the provision of air conditioning for all operating theatres, radiography rooms, anaesthetic rooms, washing/scrubbing rooms and general operating suite areas. Additional plant was installed for a children's gastro-enteritis isolation ward.

Consultants: E. Wingfield Bowles & Partners.

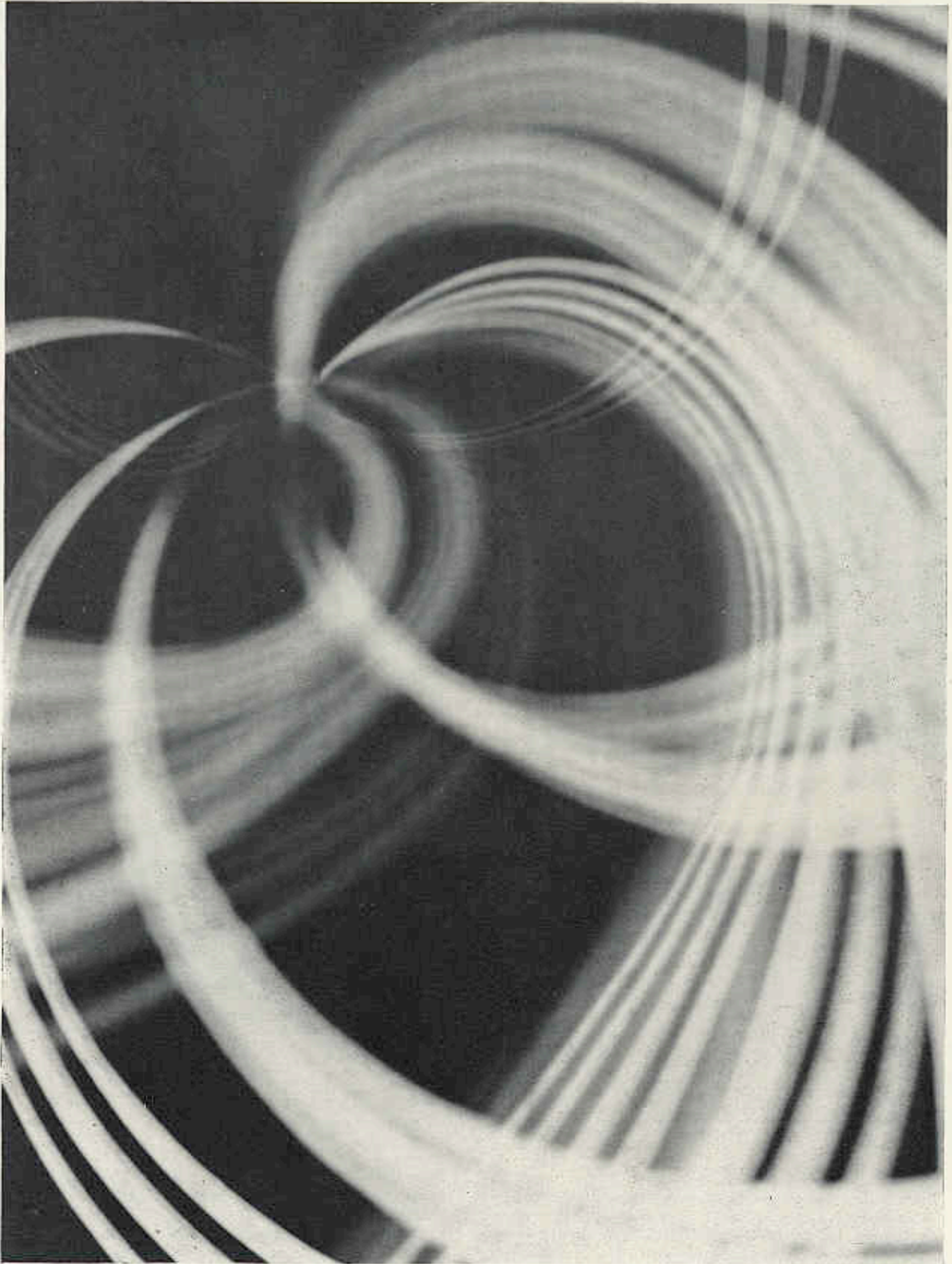
Hospitals and operating theatres

Airborne infection is the greatest single cause of transmitted disease in hospitals. Thus the air conditioning plant must be designed to control the pattern of air distribution as well as its purity. Normally, no air is recirculated and independent plants are used for the various departments. The benefit to patients of an atmosphere which is always within the comfort zone has been shown to be considerable.

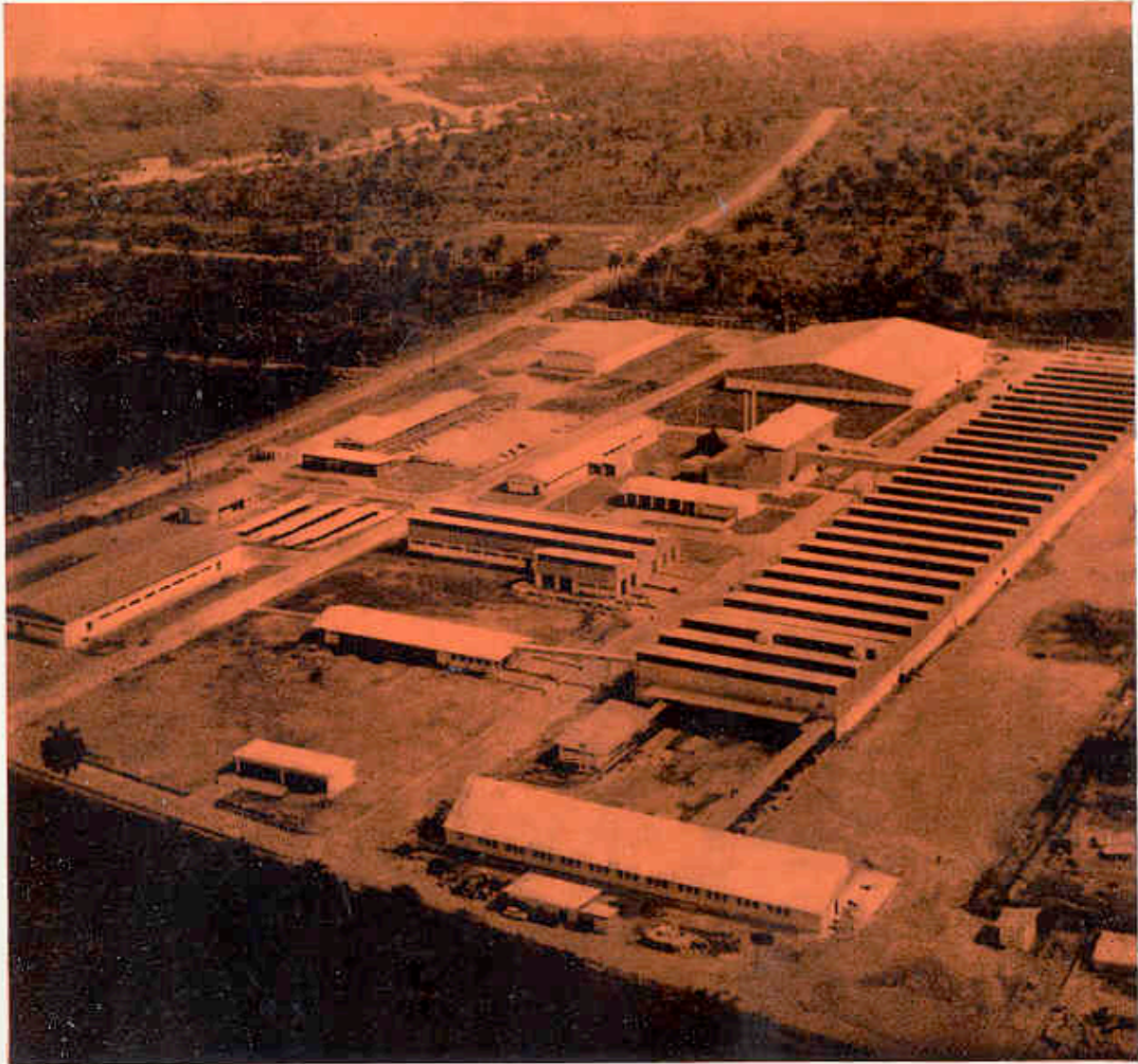
The operating theatre is a special case in hospital air conditioning, requiring as it does stringent control of air purity and air flow. Heat given off by the surgical team and equipment can give rise to intolerable condi-

tions in summer and experience has confirmed the very great benefits of cooling the theatre by the air conditioning plant.

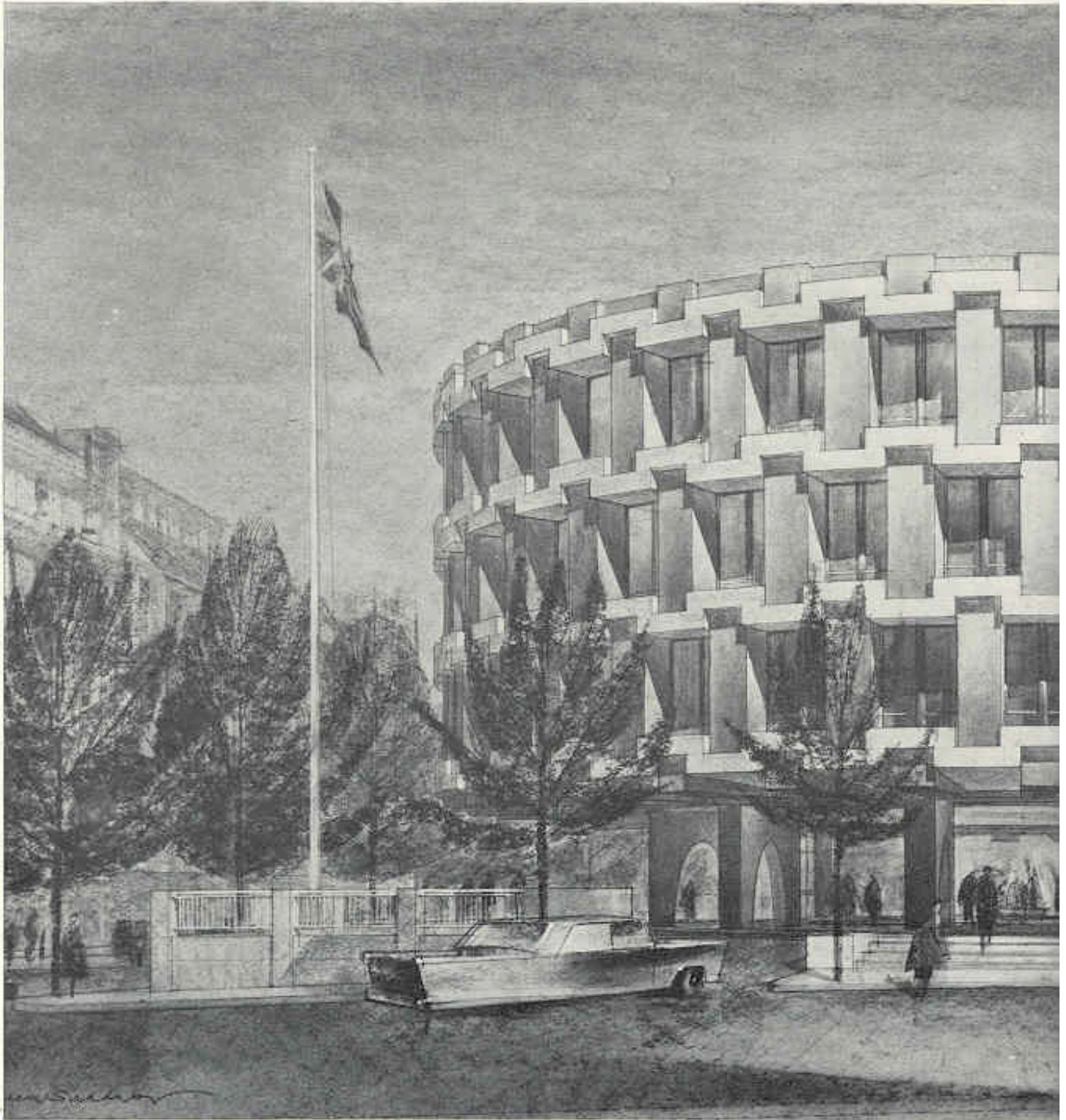
A recent development in operating theatres has been the so-called 'modular' theatre: this is a complete assembly which can be erected independently of the building structure; it contains all the surgical and engineering equipment needed including the air supply system and refrigeration plant. An advantage of the modular theatre is its ability to meet changes in hospital organisation and advances in surgical techniques.



Section 4 / Overseas installations



MICHELIN (NIGERIA) LTD., PORT HARCOURT, NIGERIA.
Services provided by Brightside include air conditioning, ventilation, compressed air, process refrigeration plant, and all piping services throughout the factory.
The refrigeration plant consists of two centrifugal machines with a total capacity of 880 tons of refrigeration. Condenser cooling water was piped through 2½ miles of jungle in 24 in and 16 in diameter tubing.
Consultants: Michelin Tyre Co. Ltd., Stoke-on-Trent.

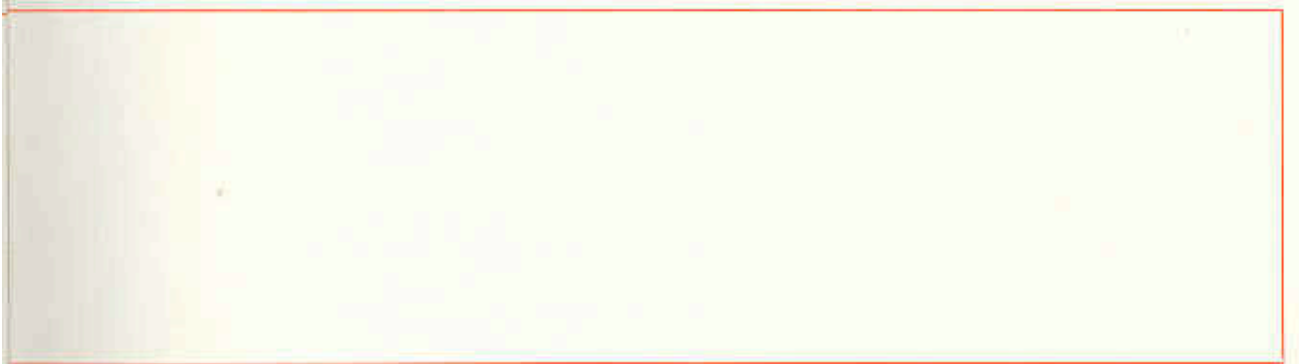
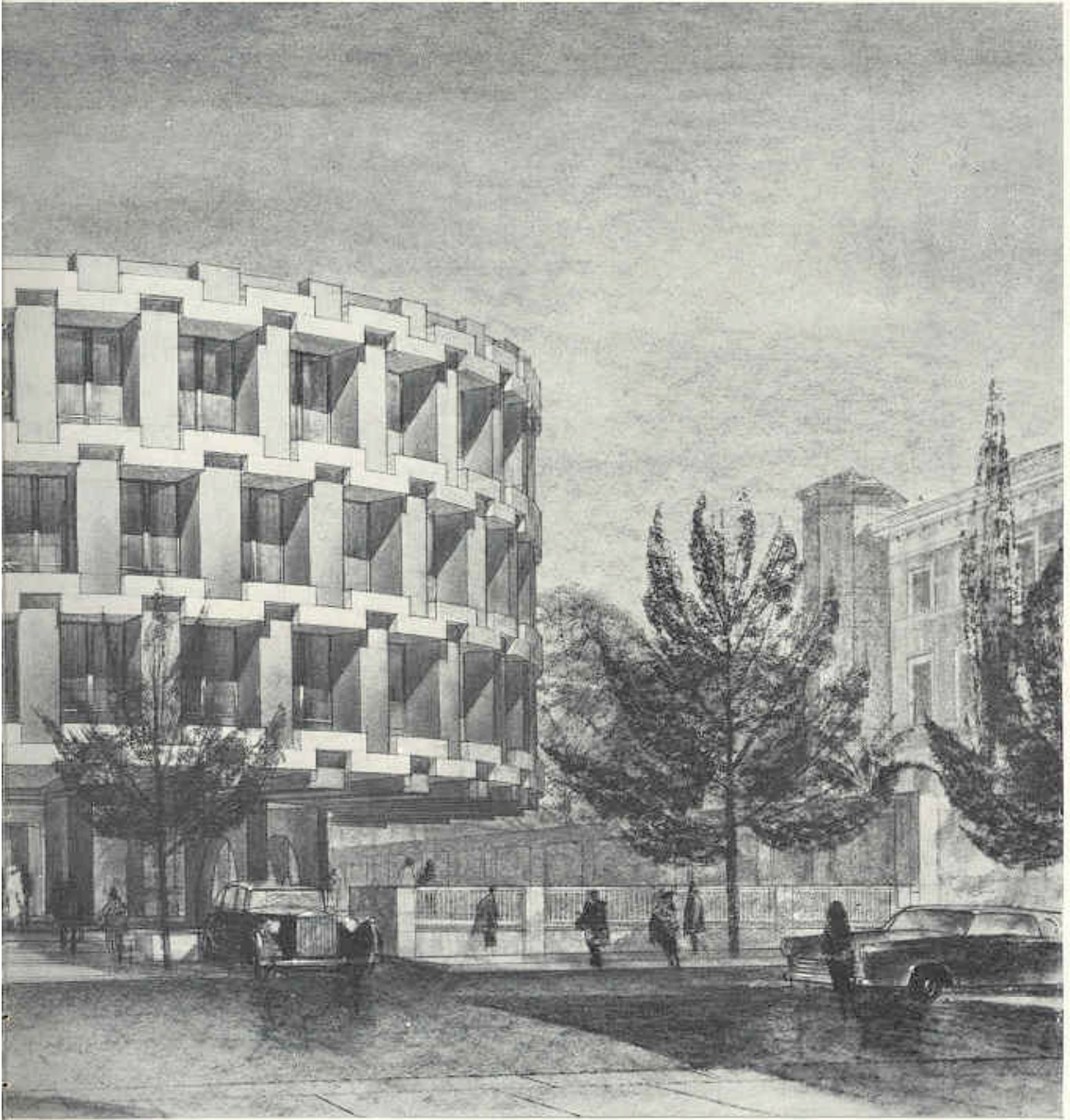


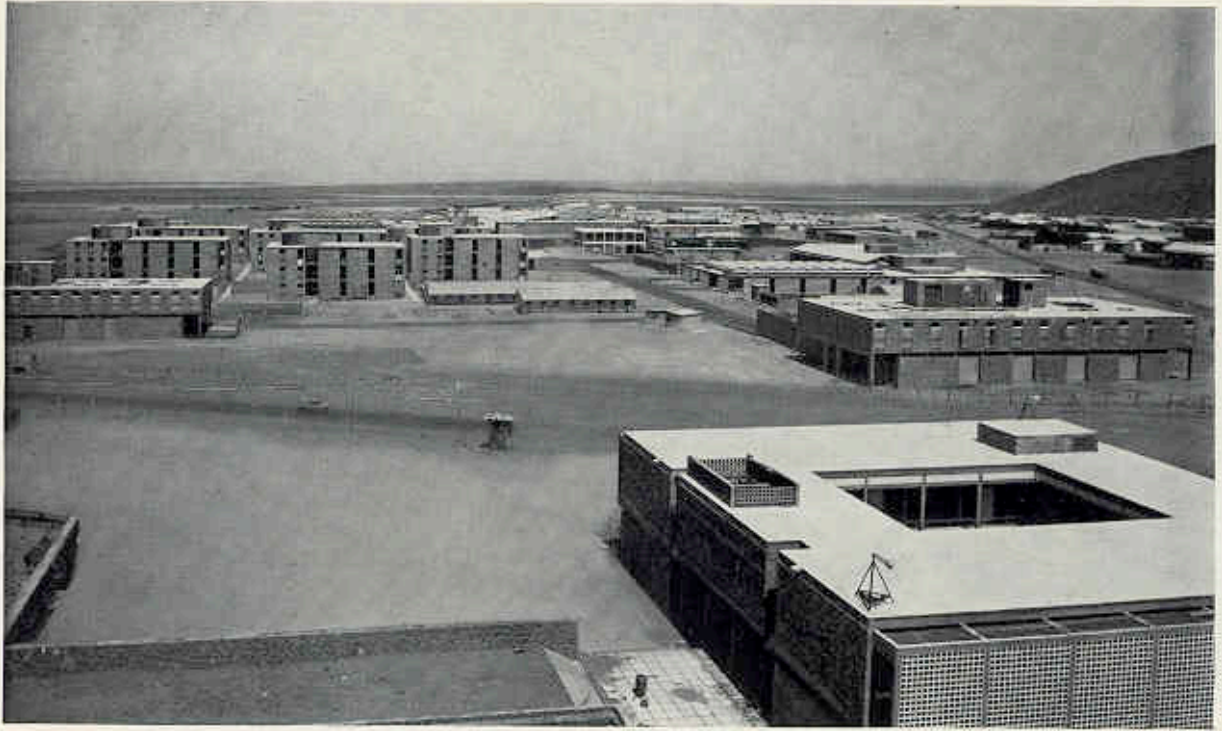
HER BRITANNIC MAJESTY'S EMBASSY, MADRID

This new office building is fully air conditioned by a high velocity induction system using high level concealed units with individual thermostatic control. The main plant comprises two packaged water chillers with total capacity of 100 tons, and two oil-fired packaged boilers. Other services provided include extract ventilation, compressed air lines for controls, electric wiring and electric panel heating.

Architects & Consultants: W. S. Bryant, M.B.E., A.R.I.B.A. Assistant Chief Architect. M O P B W London in conjunction with Blanco Soler of Madrid.

Main Contractor: Laing Iberia, S.A.





LITTLE ADEN CANTONMENT

In the new British Army Cantonment at Little Aden, Brightside installed the whole of the air conditioning and mechanical services throughout the various types of buildings including administration offices, workshops, accommodation, messes, shops, medical centre, school, fire station and telephone exchange.

110 separate air conditioning plants were installed in individual buildings having a combined cooling capacity of 1750 tons refrigeration.

A feature of the installation is the wide scale use of plastic materials. Internal ductwork is fabricated from double-skinned P.V.C ductwork, with polystyrene insulation between. All chilled water pipework is run in P.V.C tubing throughout the site area.

The types of air conditioning range from residential systems to high velocity induction plant. Other works include ventilation, kitchen hoods, hot water services and butane gas services.

Architects: Farmer and Dark for M.P.S.W.

Consultants: Brandl and O'Dell





EASTERN BANK LTD., ABU-DHABI.

This building in the Trucial States is fully air conditioned, a feature of the design being the use of a ventilating ceiling for the office areas since this was found to be a very attractive and economical solution to the problems of air distribution. Brightside also undertook all refrigeration and pipework services as well as plumbing and electrical work.

Architects : Tripe & Wakeham.



SOWELL HOSPITAL, AHMADI, KUWAIT.

Built for the Kuwait Oil Company Limited, the hospital covers approximately 40 acres and has beds for 200 patients distributed among eight ward blocks. The hospital is fully conditioned throughout with heating and cooling media piped from a central equipment room to local air handling plants. The refrigeration plant comprises two centrifugal water chillers of 700 tons total capacity. Brightside were responsible for the installation of all mechanical and electrical services including steam boiler plant (arranged for either natural gas or fuel oil firing), pipework for steam, water and medical gases, message tubes, central vacuum cleaning plant, electric power, lighting lifts, fire detection and staff location systems.

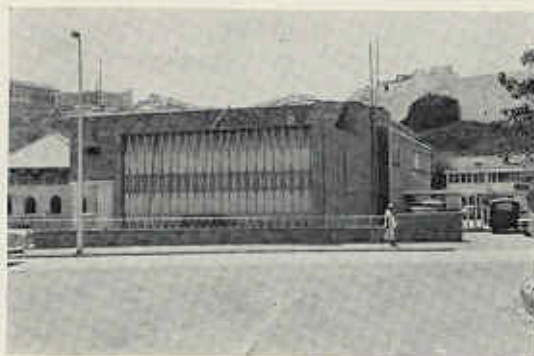
Architects & Consultants : Huckle & Durkin.

Main Contractor : Contracting & Trading Co., Kuwait.





MATERNITY HOSPITAL, STEAMER POINT, ADEN.
Operating theatres and delivery rooms are conditioned by a 100% fresh air plant with humidity control. Ward areas and corridors are conditioned by self-contained units conditioners with overhead distribution.
Consultants: Brandt & O'Dell.



BRITISH FORCES BROADCASTING STATION, STEAMER POINT, ADEN.
Studios and administration areas are air conditioned by a central plant with zone coolers. The refrigeration plant employs the direct expansion system with three compressors and matching evaporative condensers. An electronic control system is provided.



EDUCATION CENTRE, KHORMAKSAR CAMP, ADEN.
Air conditioning is provided by a system of high level fan-coil units served with chilled water and ventilation air from a central plant. A packaged chilled water set works in conjunction with a cooling tower. Each classroom is provided with individual thermostatic control.
Consultants: Brandt & O'Dell.



CABLE & WIRELESS LTD. RECEIVER STATION, SALT PANS, ADEN.
Packaged air cooled refrigeration air handling units supply conditioned air to communication bays, and administrative offices. The associated transmitting station in this area was also conditioned by Brightside using a similar type of system.
Architects: Cable & Wireless Architects Dept.

**BRIGHTSIDE HEATING &
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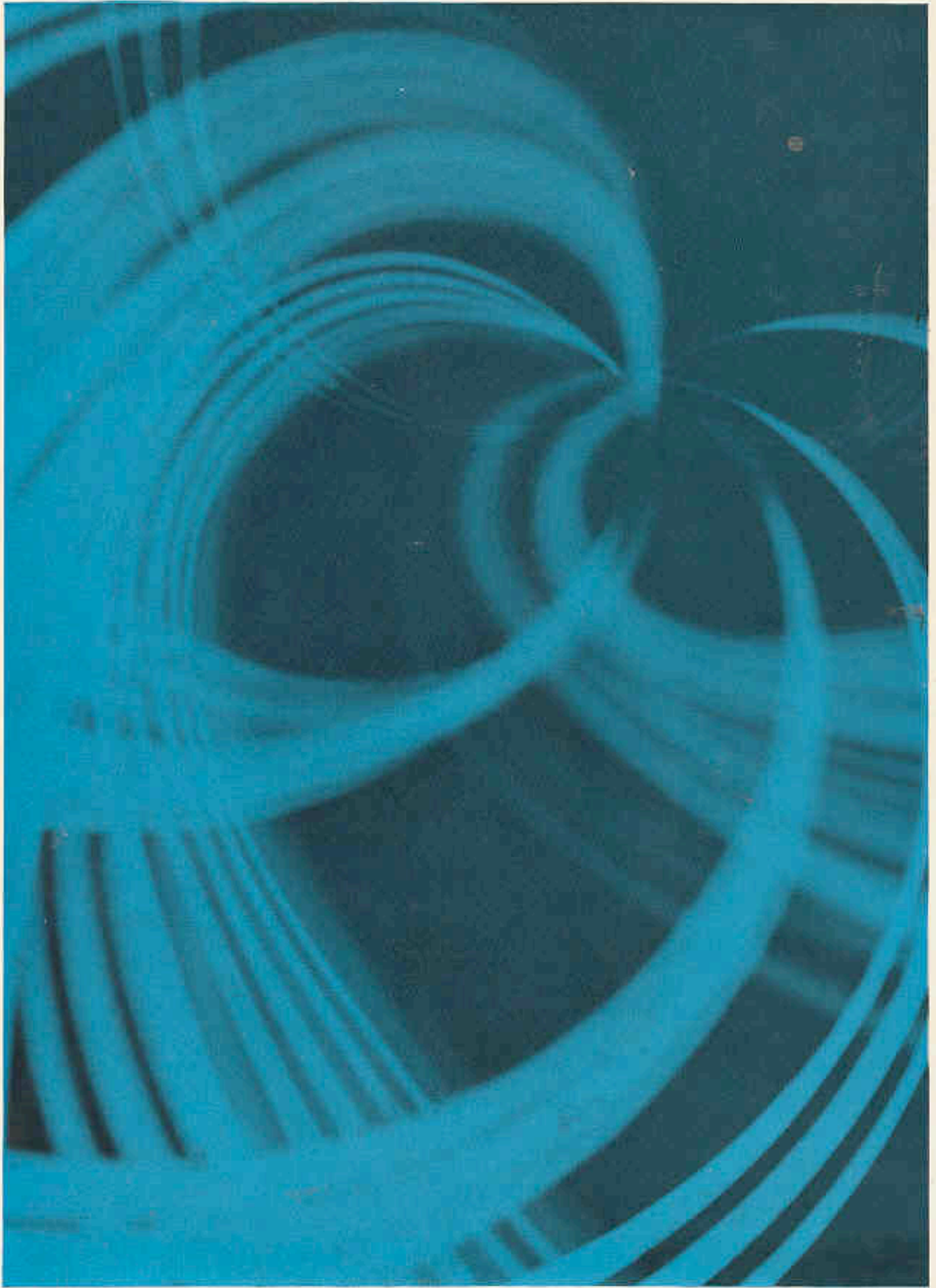
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Brightside Heating & Engineering Co. Limited



BRIGHTSIDE AIR CONDITIONING