

Matthews + Yates The Fan Makers

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A Century of Air Movement

The World of Matthews + Yates

In the year 1882 William Matthews and Joseph Yates met and formed a partnership which supplied local merchants with heating and ventilating equipment. One hundred years later Matthews & Yates has grown into a 16,000 sq m modern manufacturing plant in Swinton on the outskirts of Manchester supplying a worldwide market with the best in equipment for air movement and conditioning.

Little did William Matthews and Joseph Yates realise so long ago that they were to be the forefathers of today's extensive engineering industry.

Their knowledge, experience and determination to provide fans with unique efficiency and performance, laid the foundations upon which Matthews and Yates has grown during the last century.

The excellent reputation which M & Y products have gained over the years for dependability and performance has in no small way been helped by a continuous programme of Research, Design and Development.

As standard policy, this programme has been pursued and has ultimately produced modern and efficient equipment for applications in the air movement and conditioning fields. The use of computer aided design and analysis techniques to provide information from which the products are designed, ensures that the product performances, temperatures and stresses will accommodate the highest specifications imposed by modern requirements.



A.H.U. panels being formed.



Fan shaft machining.



Technical Design in the drawing office.



Finite element analysis of a fan impeller using a computer.

The unrivalled experience of the design team allows the production of reliable efficient and competitive units. It also enables them to plan for future customers – customers in industries which are changing faster than ever before.

A custom built laboratory equipped with the latest test rigs and instrumentation explores the future requirements of the industry.

Manufacturing facilities include numerical controlled punching, modern presses and up to date machine tools thus ensuring that the end product is the best that the customer can buy. During and after manufacture, individual units pass stringent quality control tests before dispatch to the customer.

The company's service and spares division is in a position to provide a prompt and expert service in relation to the total range produced.



An N.C. nibbling machine producing A.H.U. frames prior to forming.



A waste recovery installation.

M & Y activities have extended during the past decade into the field of pneumatic material handling and the formation of a Special Contracts Division to design and handle this aspect of the business. This Division using special trim handling fans manufactured by M & Y, install and service complete systems for waste removal from printing houses, paper/foil/plastic manufacturers.

Equipment has been installed in major UK paper manufacturers and is quickly becoming recognised for its quality and economical operation throughout the world.

The future trends for M & Y are exciting and demanding but with knowledge gained in the past 100 years and with an ongoing programme of research and development, we look with confidence to our next century as leaders in the field.

Micro Computers used in the selection of fans and air handling units.



Welding a 2.5 m fan impeller. Low temperature application (-40°C)

Engineered for performance

Air Handling Units

Cyclopac Mark II

Cyclopac range of air handling units designed in a modular form of construction providing sections each completely self contained which can be conveniently coupled together in any combination to suit individual requirements.

Excellent in-line appearance is achieved by positioning the fan drive within the fan section casing and maintaining the same cross-sectional dimensions for all sections in each size of unit.

The unit frames are manufactured from heavy gauge mild steel formed into pentapost section. The frames are then panelled, the panels constructed in double skin form with insulation between the skins.

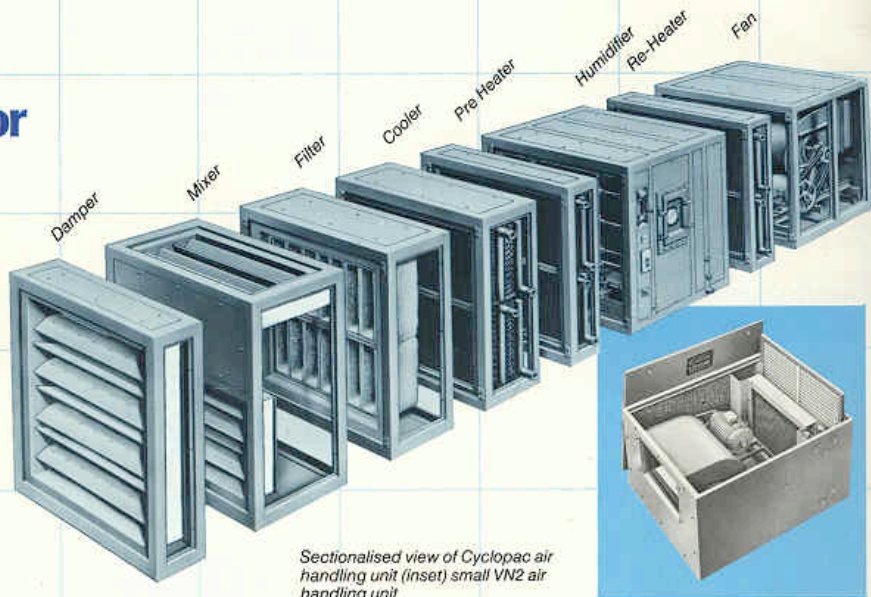
All the necessary heating, cooling, filtration and humidification options are provided.

Heat reclaim sections, wheels, plate recuperators, heat pipes, or run around coils are available.

Forward curved, backward curved or aerofoil section centrifugal fans are fitted to suit individual requirements.

Variable speed motors, inlet vane controls, mixing box and damper sections are optional. There are fifteen sizes of units with an air volume range between 0.5m³/s to 28.0m³/s.

For further details please ask for catalogue Cyclopac Mk II.



Sectionalised view of Cyclopac air handling unit (inset small VN2 air handling unit)

VN1 & VN2 Units

The Cyclopac VN Air Handling Units provide neat compact units for heating and ventilating applications.

Each unit comprises of a double width fan, with motor, air heater and filter mounted in a common insulated casing.

Installed horizontally, or vertically with left or right hand connections. Approximate volume range as follows:-
VN.1 Up to 0.5m³/s.
VN.2 Up to 0.825m³/s.

ask for Leaflet PAC/4.



Weatherproof CPR air handling units

Centrifugal Ventilating Fans

The SS Multivane Fan, the VCB Backward Curved Fan and the V. Aero-foil Efficiency Fan, are all the result of intensive research, testing and development. They have been designed to provide efficient and stable operation over their normal operating range.

SS Multivane Fans

Produced in 26 sizes with impellers having curved forward blades and ranging from 150mm to 3000mm in diameter.

Designed to give large air volumes at low outlet velocities and at slow speeds with low noise levels. Ideal for lower pressure ventilation and air conditioning systems and other clean air applications. Volumes range up to 160m³/s, 1000 N/m².



A standard belt driven VCB Fan set

VCB High Efficiency Fans

Produced in 19 sizes with impellers having backward curved blades and ranging from 300mm to 2500mm in diameter. These fans have non-overloading power characteristics, low outlet velocities and high peak efficiencies. Suitable for medium pressure and/or where parallel operation is required. Volumes range up to 120m³/s. Pressures approximately 4000 N/m².

V. Aerofoil High Efficiency Fans

Produced in 18 sizes. Impellers have aerofoil section backward curved blades and range from 400mm to 2500mm in diameter. They have non-overloading power characteristics, low outlet velocities but higher peak efficiencies than VCB Fans. These fans are recommended for higher pressures and air conditioning systems to ensure minimum running costs. Volumes range up to 120 m³/s and pressures up to 5000 N/m².

Fans are available as single inlet, single width units to various arrangements or alternatively as double inlet, double width units.

Fan casings are of all welded steel construction, reinforced with tees and angles where necessary.

A drilled flange is fitted to the outlet of all fans.

Ball or roller bearings are fitted as standard with optional sleeve bearings available for some of the units.

Accessories

The units can be provided as a basic fan or complete with various accessories such as motors, drives, guards, base frames with anti-vibration mountings, flexible connections, drains, inspection doors etc. etc.

For further details please ask for Catalogue F/7.

Engineered for performance

Zephyr Heavy Duty Industrial Fans

Have been designed to provide a custom built fan to your special requirements from a number of standard components.

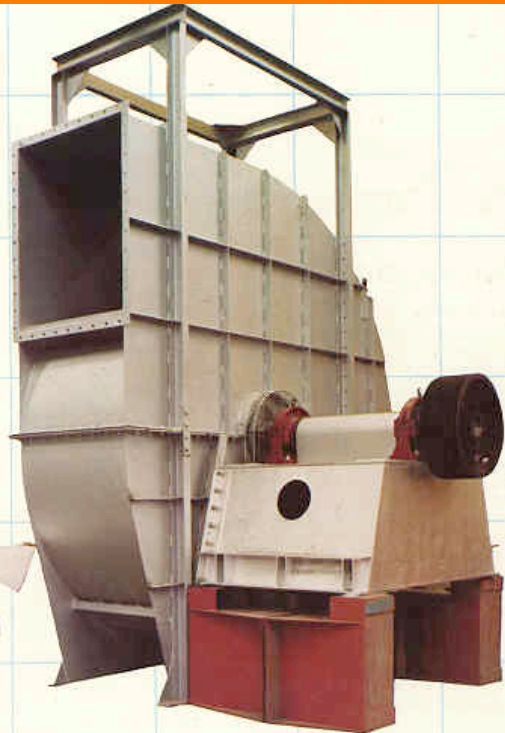
The standard range consists of five types. Each type is manufactured with several different blade angles to give a total of 19 different fans.

For each type of fan there is an impeller suitable for handling air or waste gases with either dry light dust loadings, normal dry dust loadings and dust or material liable to adhere or cake.

The variations in types, impeller blade angles, and fan sizes enable the optimum selection to be made to suit the required duty and application. Various arrangements are available.

Ruggedly constructed for trouble free operation, the fans are of all welded construction with suitable reinforcement, and they can be manufactured in mild steel; special steels, stainless steel or aluminium.

Gas tight fans have special shaft seals and particular care is taken in construction and welding of the fan casing.



A large Zephyr Fan Type 18/50 RUF 1600 application cement manufacture

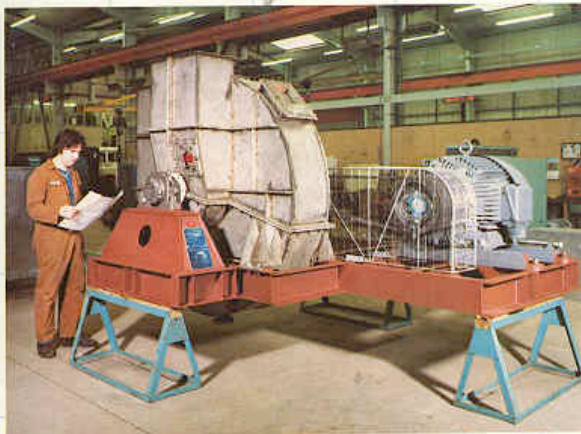
All impellers are laminar bladed with contoured shrouds and dependent upon type and application, total efficiencies of 87% are achievable.

All fans are statically and dynamically balanced before leaving our Works.

The volume range is up to 95m³/s with total pressures up to 15 KN/m²

For further details please ask for catalogue reference 1F/4.

A stainless steel Zephyr Fan Type 28/71-RSR 450 ready for test. Application – lead recovery process plant



Trim Handling Fans

For Waste Recovery Installations

The patented TH Fan has been specially designed to handle waste in the paper, board, foil, packaging and plastics industries.

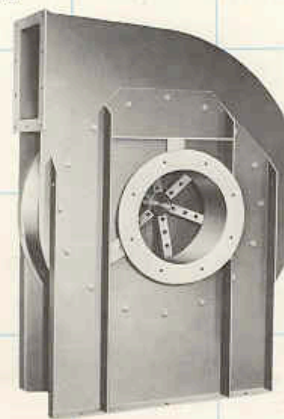
Fans will handle continuous trim from all types of paper, corrugated and solid board, metal foil, thermoplastic films and high density polystyrene.

These can be in varying thicknesses from film at less than 0.025mm to thick solid board at 6.50mm.

The non-clogging impeller is of very rugged construction with heavy gauge steel plate blades welded to the back plate.

The front edges of the blades are fitted with removable high speed steel knives to effectively cut the continuous trim.

Six sizes are available with impeller diameter from 445mm to 1016mm.



Trim Handling Fan used on waste recovery systems

For further details please ask for catalogue TH/4.



A large high efficiency variable speed V-Aerofoil Centrifugal Fan for application on test with temperature down to -40°

Engineered for performance

Axial Flow Fans

Manufactured in 13 sizes ranging from 315mm to 2000mm.

Each fan is available at a variety of speeds, with 3, 6 or 9 bladed impellers.

The aluminium die-cast impellers are bolted into an aluminium hub. The pitch angle is set during manufacture, however if necessary, adjustments can be made on site. The pitch angles range from 8° to 360°.

The standard L type casing completely encloses both impeller and motor. On this arrangement a weatherproof terminal box is provided on the outside of the casing together with an inspection point.

The alternative S type casing is available where required, enclosing only the impeller. On this arrangement electrical connections are made directly to the terminal box on the motor.

Various accessories are available including mounting feet; AV mountings, mountings, silencers, flexible connections etc. etc.

Bifurcated Fans

Bifurcated Axial Flow Fans are available and particularly suitable for the higher temperature application. They are also suitable for handling moisture laden air and for many other industrial applications.

Three standard type of Bifurcated fan are available these being suitable up to 300°C. For further details please see catalogue AF/5.



Multistage Fans

Two stage contra rotating units are available as standard.

For higher pressure development fans can be supplied with additional stages.

Belt Driven Fans

Where the application requires the motor to be outside the airstream belt driven units can be supplied.

The impeller is mounted on a shaft revolving in two bearings within the casing and this is driven by vee belts from a motor mounted on the outside.

Air Heaters

Steam, Low, Medium & High Temp Hot Water

Plate finned heaters for air conditioning plenum heating, drying etc.

Suitable for use with hot water or steam.

Materials:-

Copper or aluminium fins.
Copper tubes.
Copper or steel headers.
Flanged galvanised mild steel case.

For further details on air heaters ask for Leaflets AH/4, AH/5, and AH/6.



Cooling Coils

Chilled Water & Direct Expansion



Applications

All over the world millions of people go about their daily business in factories, offices and shops completely unaware that products from Matthews and Yates are making their lives more pleasant by providing clean fresh air at an ideal temperature as and when required.

We don't mind this at all! We are satisfied in the knowledge that we have supplied the best product available and that it is working and will carry on working economically and efficiently.

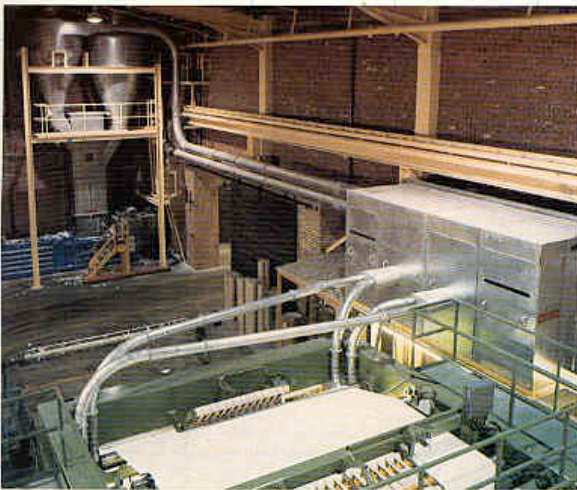


The 'Delamere' Laboratory at Thornton Research Centre Shell Research Limited fans supplied by M. & Y.

Matthews and Yates refuse to produce anything but the finest air moving equipment. This is probably why our products are specified by the majority of leading Designers, Architects and Consultants in both commerce and industry in the U.K. and overseas.

Each unit produced is designed and manufactured to meet the exact requirements of an individual customer. It is then despatched with an assured highest quality performance to give safe operation and maximum life expectancy under normal operating conditions.

A few of our highly respected and satisfied customers are shown.



The Special Contracts Division of Matthews & Yates operating from their Bromley Office offers the provision and installation of waste recovery systems to printing houses and paper/foil/plastic manufacturers.

The Tullis Russell plant at Markinch in Scotland produces high quality

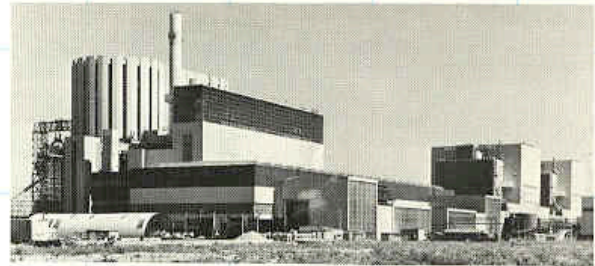
coated papers. To provide cost saving and speedy removal of the waste from Jagenberg Vain-roll high speed winding machine they installed M & Y trim fans which chop the waste into convenient lengths and despatch it via ducting to a horizontal baler. It is then ready to be sent for recycling.

Dungeness B Nuclear Power Station was the first Commercial nuclear station in the world to use advanced gas-cooled reactors. To help provide the necessary ventilation at critical ambient temperatures Matthews and Yates equipment was installed.

Since then practically all the UK nuclear sites have been supplied with

M & Y equipment. The impressive list of installation includes Oldbury, Berkley, Windscale, Hinkley Point, Hunterston, Hartlepool and Heysham I.

A further two sites are currently under construction at Heysham II, and Torness – naturally with M & Y products.



Seven of the plant rooms at the New Grimsby District Hospital have been supplied with Matthews & Yates air handling units and centrifugal fans.

These will provide air at the differing temperature requirements for the operating theatres, children's isolation rooms, wards, X-ray Dept., accident section, wards etc.



One of three large V. Aerofoil High Efficiency fans supplied for the Shell/Esso Brent 'B' Condeep drilling platform.

These fans provide ventilation for 9 buildings containing equipment and a three story accommodation block housing the crew of 90.

The fans are specially treated with a thick coat of chlorinated rubber paint to withstand the weather conditions.

Matthews + Yates Service and Spares



Since William Matthews and Walter Yates first produced their innovative fans a hundred years ago, Matthews and Yates has been totally committed to providing an after sales service.

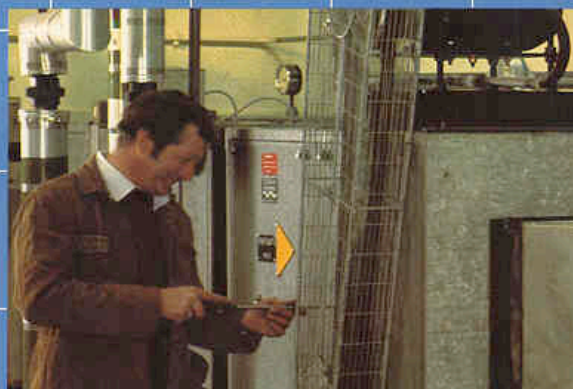
So much so that now the M & Y Service Department can offer you the men, the experience, the facilities and the equipment to provide you with the best package of support services in the business.

The team of highly skilled and fully trained Service Engineers can handle all your repairs, servicing and testing wherever you are.

Spares also are speedily handled through the service department.

Just a quick telephone call and expert help is at hand.

- Installation
- Maintenance
- Re-rate
- Overhaul
- Repairs
- Dynamic Balancing
- Parts
- Preventive Maintenance Contracts
- Performance Testing



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