






Air Handling Unit ACCESSORIES

Accessories & Options Colour Selection Chart

The Accessories & Options section provides a full specification of each item, allowing readers to quickly identify the relevant Accessories and Options for each type of Air Handling Unit through the colour section key below.

	NEVADA WRAPAROUND		STRATUS
	NEVADA PENTAPOST		BESPOKE
	CIRRUS		

Silencers

All silencer casings are made from 1.0 or 1.2mm pre galvanized sheet steel and are finished at both ends with 25 or 35mm Ductmate flanging system. Silencers are generally sized to achieve good acoustic insertion losses whilst still maintaining moderate pressure losses. Pods consist of scrim faced non-hydroscopic, vermin proof mineral wool insulation of a minimum density of 45kg/m³ and retained by galvanised flattened expanded metal.



Speed Regulator

Speed regulators are available for all direct driven single phase Air Handling units and for belt driven units up to 1.1kW. All regulators are housed in an IP51 enclosure.

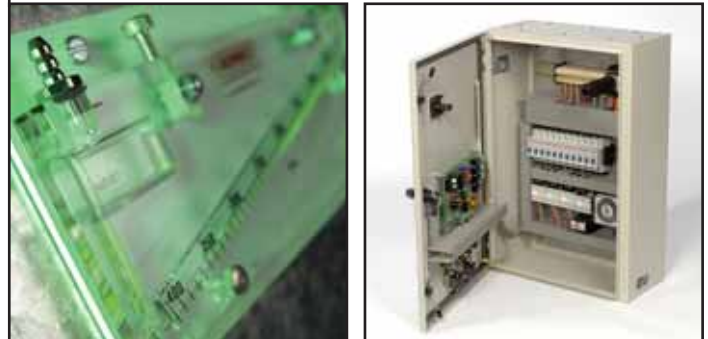
Single phase controllers are available in manual or BMS options. Manual panels are for 2 or 3 wire control up to 10A Flc and offer stepless speed control, together with an on/off rocker switch and a pre-set minimum speed facility via a potentiometer within the unit. The BMS version is as

the manual version with the exception that speed control is achieved via a 0-10 volt signal, (or from a remote 10k potentiometer), and on/off control via a set of volt free contacts.

Auto transformer speed controllers are available for three phase belt driven units with up to 5.5kW motors. Enclosures are vented and have hinged lockable doors with a removable key. Control is achieved via a six position (off and five speeds) rotary switch.

Manometer

The inclined liquid column manometer has been designed to measure slight variations in pressure depression or differential pressure of air or gas. Accuracy is achieved by means of an adjustable graduated scale and a 20ml safety reservoir. The manometric liquid used is AWS 10 red oil which has a density of 0.87 at 15 degrees C. Recommended temperature range of use is +5 to 30 degrees C, although possible range of use is -30 to 60 degrees C.



Electric Heater Battery Step Controllers

All controllers are mounted in either moulded ventilated, or ventilated metal epoxy coated enclosures rated to IP56.

Generally the controllers are fitted with the following features as standard:-

- Door interlocked isolator
- 1-8 automatic incremental steps of switched heating control
- Seven day digital on/off programming facility
- Automatic fan run-on timer for heater cooling on shutdown

Air Handling Unit ACCESSORIES Cont...

- Separate heater, supply fan and control fusing
- Safety air-flow proving, high temperature and filter blocked interlocks
- Temperature control range of 10 to 40 degrees C
- High temperature safety power lock-out feature
- Room or duct mounted thermostats can also be supplied with temperature settings to suit the control range.

Duct Thermostat

The Duct thermostat senses the air temperature in and out of the unit. It is used on the air intake as a frost stat, or as a supply air temperature sensor on the discharge side of the unit.

Available in a range of 1 to 4 step capillary thermostats, with an operating temperature range of -20 to +40°C, the liquid filled sensing element enables a rapid response to temperature changes. The enclosure rating is IP43.

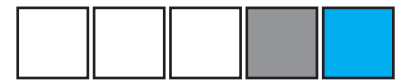


Airflow Switch

Consists of a low torque micro switch with a maximum operating torque of 10gcm, with silver contacts and is supplied in a normally open condition. The case material is made from a phenolic resin. Actuation is achieved via a 85 x 0.66mm diameter wire which is mechanically bonded to a small light gauge aluminium flag. The switch has both UL and CSA approvals.

Differential Pressure Switch

Designed and built for purpose, which comes in a range of four units, for the measurement of non-flammable and non-aggressive gases such as air, via a silicone membrane. from 20 to 2500 Pa. Switching capacity is 1.5A @ 250VAC, unit protection class is IP54 and medium ambient temperature is -20 to +85 degrees C. Switch approval according to VDE0630 EN-1854.



Spring Anti Vibration Mountings

Where high isolation efficiencies are required fan bases can be isolated from the structure of the air handling unit casing by means of spring anti vibration mountings.

The mountings are available in a number of different types as illustrated, open spring type, open spring hangers and enclosed spring type which is best suited for use in air handling units. Enclosed spring mounts have built in levelling to ensure correct loading.

Depending on fan speed, motor speed and weight of the fan set, the deflection of the mounts can range from 15mm to 50mm and isolation efficiency can be as high as 95%.

Air Handling Unit

OPTIONS

Volume Control Dampers

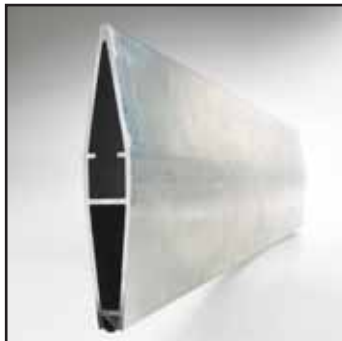
Volume control dampers have been specifically designed to provide exacting control through air handling systems.

Damper casings and blades are manufactured from low profile aluminium extruded section.

Each blade has an aerofoil section which ensures aerodynamic characteristics of quiet operation and minimal pressure drops are achieved when the damper is open.

All blades incorporate an edge seal through the length of the blade to prevent air bypass when the damper is closed. Blades are interlocking, with a smooth positive opposed blade operation, working through a nylon geared drive which can be used with manual, electric or pneumatic controls.

All dampers are supplied with a single 12mm square extended drive spindle for connection to an electric or pneumatic controller, with an optional hand locking quadrant fitted for manual control.



Plastisol Casings

Manufactured from Galvalite pre hot-dip zinc coated sheet steel with the outer surface coated with 200 microns of high performance plastisol coating. The inner surface is coated with a specially formulated two-coat protective system of corrosion-resistant primer topped with a heat cured high-performance polyester.

Colour specifications available for Plastisol;

Ocean Blue to BS4800 18C39 and Goose wing Grey to BS4800 10A05.



Hinged Door Panel

Fastlane AHU's have large inspection doors, making servicing and maintenance easy. The doors are secured with Allen key operated latches which means that the doors can be easily removed if required, and provided there is sufficient space available in the plant area, doors can be provided with hinges.

The hinges can be removed if necessary. The doors are sealed using rubber profiles and locks can only be opened using the Allen key.

Base Frames

Where base frames are specified, they are formed from 2.0mm thick pre galvanised sheet steel to BS EN 10142. The 100mm x 50mm high base frames are bolted together so as to achieve a rigid base for the Air handling unit.

The channels come complete with pre-pierced holes for fixing in position and holes for lifting bars.



Air Handling Unit

OPTIONS Cont...

High Efficiency Bag Filters

The Filter media is of Grade F5,F6,F7 and F8 in accordance with BS EN779: 1993 and has maximum operating temperature of 100°C.

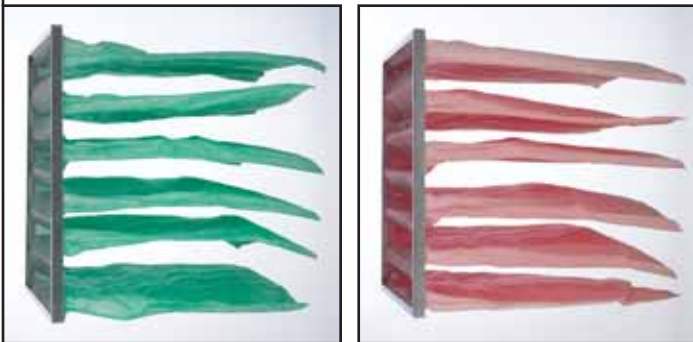
Grade F5 and F6 High efficiency bag filters are designed to remove most mould spores, pollens and general dust from the incoming air.

Grade F7 and F8 high efficiency bag filters are designed to remove bacteria and carbon black from the incoming air.

The efficiency of these filters is imperative for the environmental conditions in which they operate, therefore they are protected with a pre-filter allowing only finer particles through, where they are trapped by the high efficiency bag filter.

Pockets are constructed from a synthetic non-woven media, a mix of coarse and fine fibres lofted into a three dimensional structure. The media is mounted onto a flame retardant, rupture proof backing to eliminate fibre migration. The individual pockets are parallel stitched to maintain optimum media spacing, whilst the application of hot melt adhesive to each stitch hole prevents air leakage. Pockets are supported on a copper wire frame and enclosed within a 22mm galvanised header frame.

Other frame depths are available upon request.



High Capacity Bag Filters

These filters are designed for applications such as air conditioning systems with higher than normal dust loads. Filters are able to handle high air volumes combined with low pressure loss.

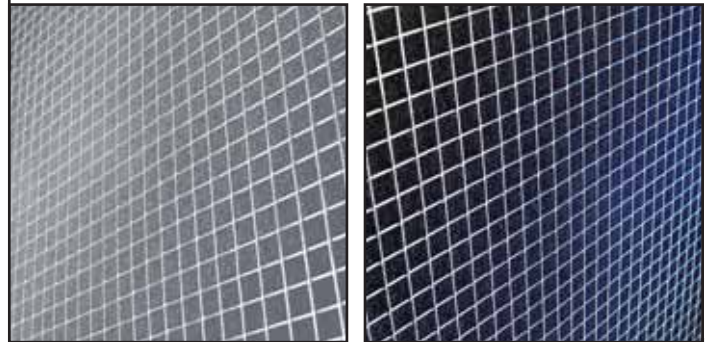
The filter media is of Grade G4 in accordance with BS EN779: 1993 and has a maximum operating temperature of 100 °C.

The self supporting nature of the material construction enables the bag filter to be installed with the pockets running either horizontally or

vertically. Filter pockets are constructed from a lofted non-woven synthetic material with thermally bonded fibres which conform to BS 5568 Part 9 and CP413. Pockets are supported on a copper wire frame, which is then enclosed within a 22mm galvanised steel header frame. Other frame depths are available upon request.

Washable Filters

Constructed from a reticulated polyurethane foam pad, and enclosed within an aluminium frame with a galvanised retaining mesh fitted to the outlet face. The media is of grade G4 to BS EN779 1993 and has a maximum operating temperature of 100°C.



Glass Fibre Panel Filters

Glass Fibre Panel filters are constructed from a glass media pad, enclosed in a water resistant cardboard lattice frame. The large fibre surface area and graded density of the media provides high dust holding capacity and low pressure drop.

The media is of Grade G3 to BS EN779 1993 and has a maximum operating temperature of 100 °C.

Air Handling Unit OPTIONS

Rigid Bag Filter

High performance rigid pleats can be used in a wide variety of air conditioning and general ventilating applications where large volumes of air are to be handled and systems dictate high dust holding capacity, coupled with low initial resistance.

These filters provide an improved efficiency over traditional bag filters. They out perform bag filters in all facets of arrestance, efficiency, capacity, pressure drop and service life.

Filter grades are available from F6 to F9 BS EN779 :1993

Standard lengths are 150mm and 300mm.



Steam Heating Coils

Coils are constructed from Seamless Drawn Copper Tube to BS 2871 mechanically expanded into aluminium fins with die formed self spacing collars. Tubular copper headers are silver brazed into the tube ends. Flow and return connections are BSP(M).

The coil casing is formed from heavy gauge galvanised sheet steel to BS 2989 to make a rigid assembly.

Tube end plates have die formed collared holes to allow expansion and contraction of the tubes without damage.

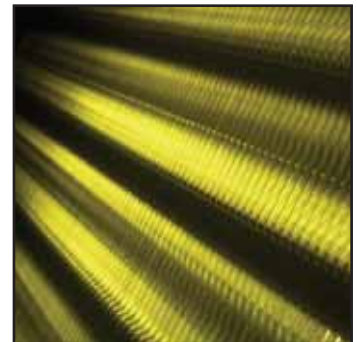
All coils are pressure tested to 16 bar with dry compressed air under water.

Chilled Water Cooling Coils

Coils are constructed from seamless drawn copper tube to BS 2871 mechanically expanded into aluminium fins with die formed self spacing collars. The coil casing is formed from heavy gauge galvanised sheet to BS 2989 to make a rigid assembly, with BSP(M) pipe fittings on coil flow and return connections. Chilled Water cooling coils are fitted with a galvanised sheet steel drain tray with a BSP(M) connector, with stainless steel drain trays optional. The drain tray supplied as standard is sloping in order to negate any problems with stagnant water. Tube end plates have die formed collared holes to allow expansion and contraction of the tubes without damage.

All coils are subjected to an air under water test to 16 bar during manufacture.

All coil sections are fitted into the units on pre-galvanised slide rails for ease of assembly and withdrawal



DX Cooling Coils

Coils are constructed from Seamless Drawn Copper Tube to BS 2871 mechanically expanded into aluminium fins with die formed self spacing collars. Copper return bends, liquid distributor and tubular copper headers are silver brazed into the tube ends.

The coil casing is formed from heavy gauge galvanised sheet steel to BS 2989 to make a rigid assembly. Tube end plates have die formed collared holes to allow expansion and contraction of the tubes without damage.

Drain trays are provided as standard, vee formed with an air baffle to prevent air bypass and a BSP(M) drain connection.

Air Handling Unit

OPTIONS Cont...

Plate to Plate Recuperator

Plate heat exchangers are important elements in saving energy in industry, commerce, hotels, hospitals, sports halls, hospitals and many other applications. They are used in Fastlane air handling units to lower energy consumption and therefore, minimise damage to the environment.

Efficiencies between 40% and 75% can be achieved depending on extract air temperature and volume, incoming fresh air temperature and the volume and air velocity through the exchanger.

In the plate heat exchanger the warm extract air and the cool fresh air, separated by thin aluminium plates, pass each other in cross-flow. No mixing of the two air streams takes place. Therefore, the transmission of dirt, odours and moisture etc. is impossible. Heat is transmitted from extract air to fresh air purely by conduction as a result of the temperature difference between the two air streams. The warm extract air is cooled down, the cool fresh air is heated.

For special applications the exchanger and casing can be corrosion protection coated or the entire unit supplied manufactured from high grade stainless steel.

The plate heat exchangers have no moving parts and operation is always 100% reliable.

If required plate heat exchangers can be provided with a summer by pass damper to prevent the incoming fresh air being heated by the extract air.



Heat Recovery Wheel

The thermal wheel is a cost effective heat recovery solution for larger air flow rates or for where moisture transfer as well as heat transfer is required.

If the Air Handling unit does not have cooling, normally the condensation wheel (non-hygroscopic) with plain face and aluminium alloy rotor is used for heat transfer.

For moisture transfer a sorption wheel with silica gel coated aluminium alloy is suitable. The typical heat recovery and moisture transfer is between 70% to 80%.



Port Holes

A Port hole can be fitted to the fan or spray coil access panel sections, in order to view whether the component is operating correctly.

Access Door Handles

Handles are fitted to NEVADA Wraparound unit access panels as an option, for ease of handling and removal from the air handling unit framework, which facilitates access to components for regular maintenance.



Air Handling Unit OPTIONS

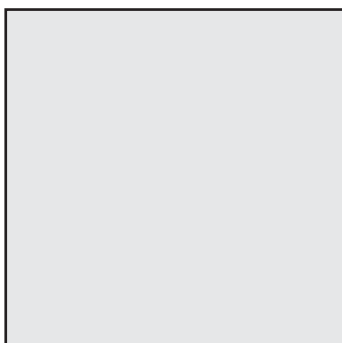
Gas Fired Heaters

Indirect gas fired heaters are designed for inclusion as a section within an Air Handling unit. These high efficiency heat exchanger units can run on either natural or liquid propane gas.

Heater sections are highly flexible, accommodating either horizontal or vertical airflows, with a choice of controls – On / Off, High / Low or Modulating.

The exchangers are built for a long service life, with heat exchanger tubes expanded into a collection box, eliminating welds. Tube construction is available with a choice of stainless or aluminium steel tubes.

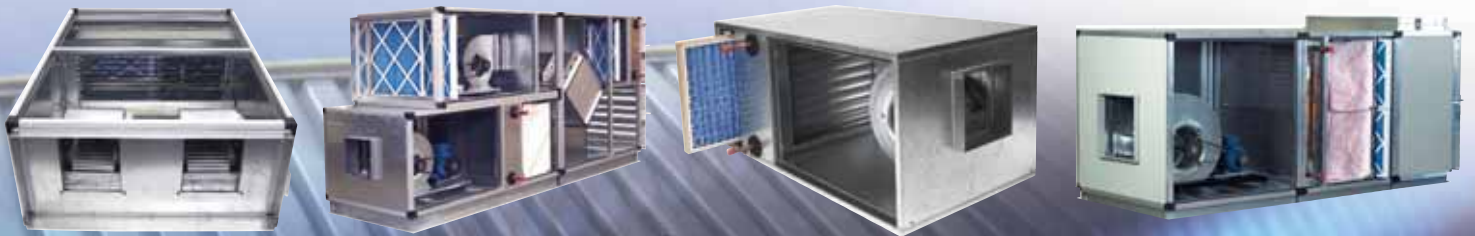
The range of duties extends from 11kW to 100kW output, with higher duties available where units are mounted in multiples of up to three in series and two high, side by side, enabling heat outputs up to 1200kW.





AIR HANDLING UNITS

DIRECT DRIVE · BELT DRIVE · BESPOKE



FORWARD & BACKWARD CURVED CENTRIFUGAL FANS



Fastlane can offer an extensive range of single inlet and double inlet, belt driven forward and backward curved centrifugal fans, supplied complete with base frame, motor, motor rails, drive and drive guards



SILENCERS



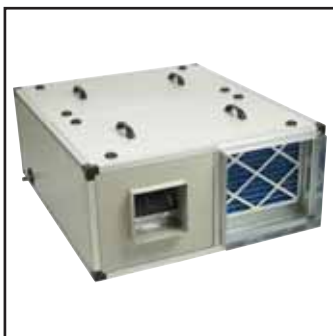
Fastlane offer a wide range of Circular, Rectangular and splitter silencers, to provide excellent sound absorbing characteristics for building services applications



HEAT RECOVERY



Fastlane offer a comprehensive range of heat recovery units with either direct or belt driven centrifugal fans. Units can be supplied with mounting arrangements to suit most internal or external applications.



ELECTRIC HEATER BATTERIES



Fastlane range of electric heater batteries is available in three types: - Duct mounted with flanges, Circular to suit spiral duct or Stab-in version for installation in existing ductwork. Heaters can be supplied in 3Ph or 1Ph with output and stages to suit.



APPLICATION, APPLIC



Applications

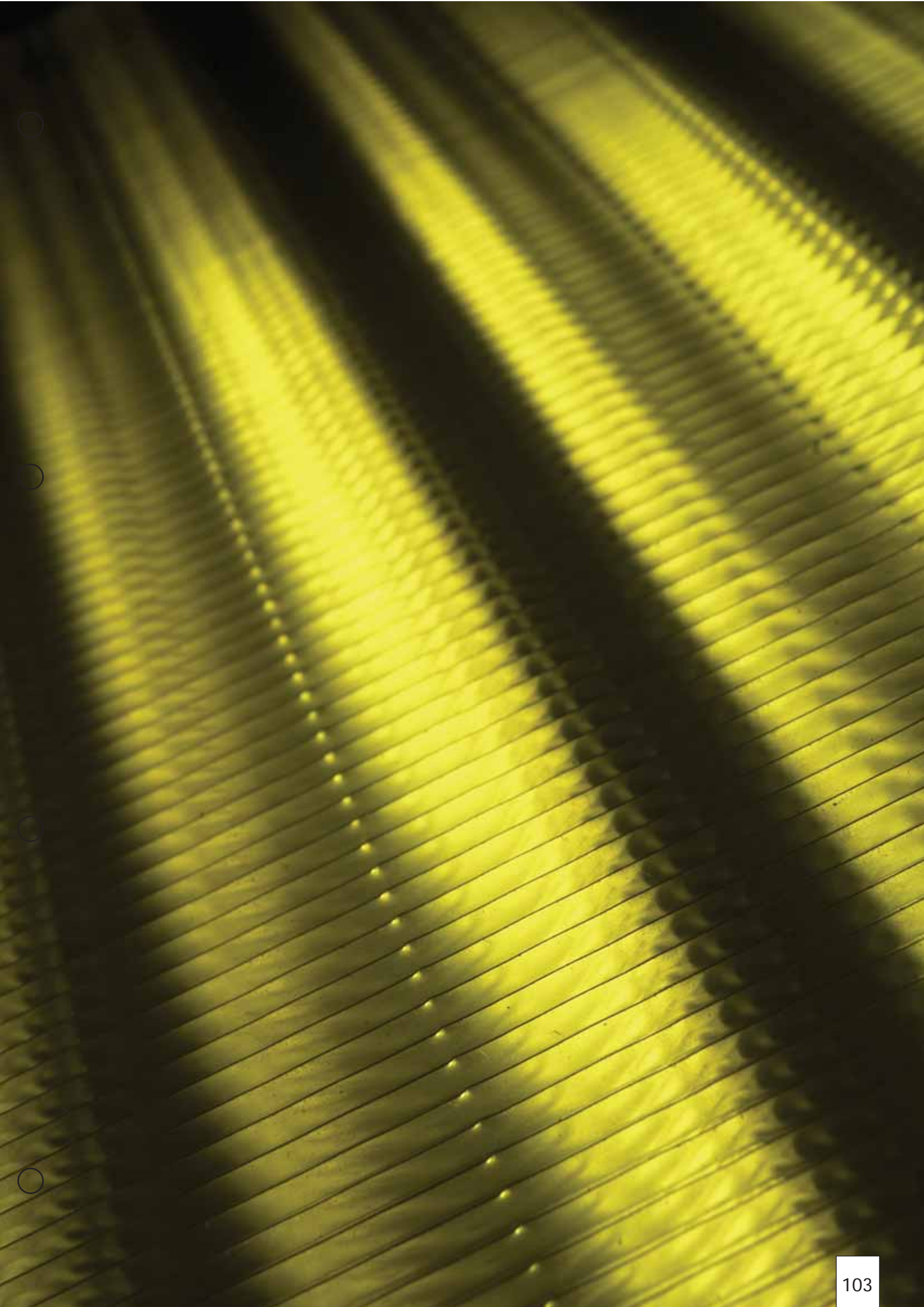
The Fastlane range of Air Handling units are designed to suit a wide range of typical building services applications from industrial premises, warehousing and offices to commercial kitchens, public buildings and leisure centres, where either heating and ventilating to full air conditioning with very high standards of air filtration is required.

ICATION, APPLICATION





A Real **Grip** on Air Handling Units





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