

the partner of **choice**



torin-sifan
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For over 100 years, torin-sifan have been a leader in servicing the Air Movement requirements of our customers. From our 13,400 square metre Head Office and manufacturing facility in the United Kingdom, we supply annually 1.5 million products to the International Air Movement Industry.

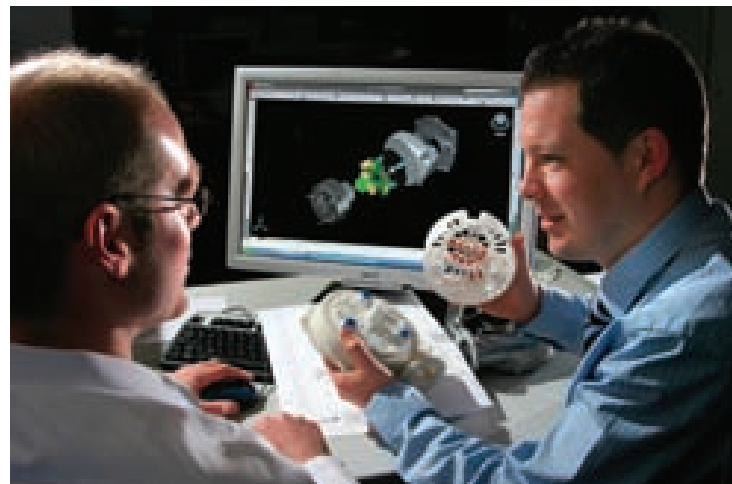
International Markets

Our customers are involved in numerous diverse markets ranging from the International Heating, Ventilation, Air Conditioning and Refrigeration industries to Business Machines, Electronics Cooling, Telecommunications and Domestic Appliances, with torin-sifan able to offer a diverse range of standard and custom solutions across all of these sectors and more.

We are a truly International business with our sales evenly split between our home market in the UK and numerous export customers, all serviced by our technically competent international sales team. Support is provided by experienced product development and applications engineers backed up by an excellent research and development facility.

Technology Partners

Commitment to Research & Development is at the very heart of our business. A key benefit of this philosophy has been the development of a wide range of both low voltage DC & 230v **EC** technology products. This has helped position torin-sifan as the preferred choice for Energy Efficient Air Movement solutions in various markets where local legislation is demanding low carbon products to help meet individual country commitments to reducing their carbon footprint.



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Customer Orientated

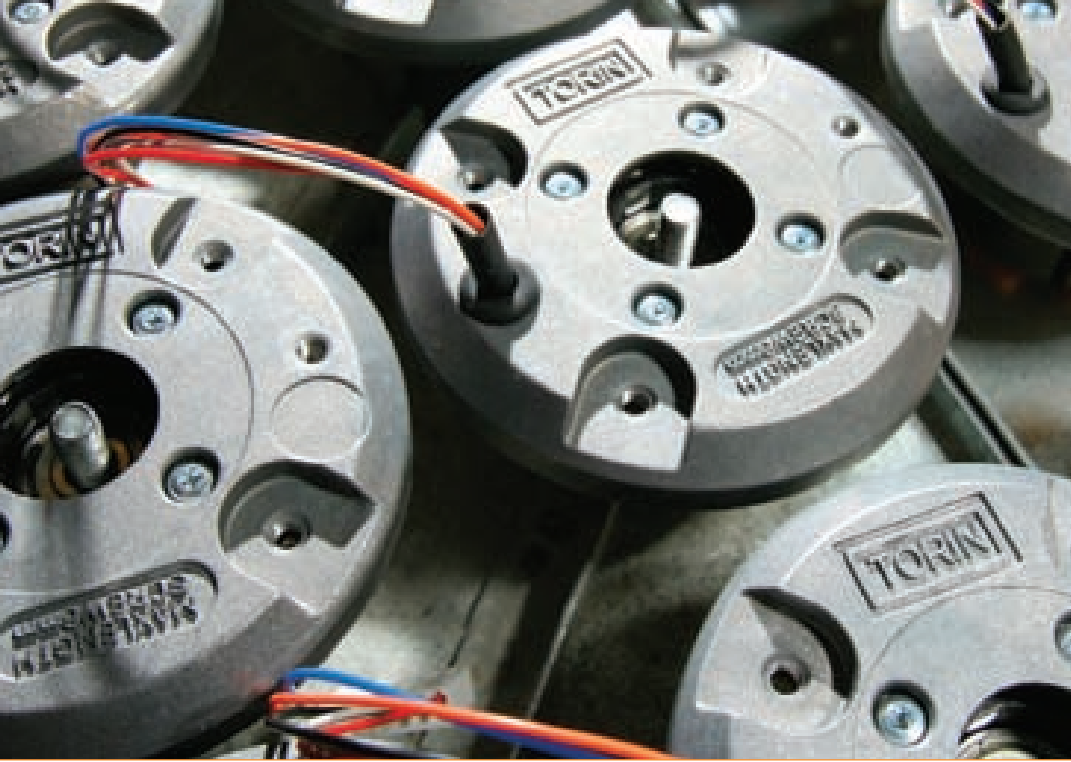
A key attribute of torin-sifan is our ability to meet your exact needs by being both versatile and flexible. We are committed to listening closely to our customers and responding in a way that ensures mutually beneficial results. Our primary objective is to meet the needs of our customer whether that be with one of our standard products or by managing a truly joint development partnership to produce a product totally customised to meet specific customers' needs.

Quality & Service

The success of torin-sifan has been built upon a foundation of five specific principles. These are;

- The development of **Trusted Relationships** with our customers.
- The development of **Products & Technologies** that meet the exacting needs of our customers.
- The most **Competitive Pricing** possible to enhance value to our customers.
- High product **Quality & Reliability** to maintain our customers' brand reputation.
- Excellent **Customer Service** to improve our customers' cost efficiency.

These principles remain at the centre of our commitment to our customers.



manufacturing flexibility & quality

torin-sifan manufactures 1.5 million AC and **EC** Motors, Fans and Blowers each year and has operated from its UK production facility in Swindon, England producing high quality products for nearly 50 years.

Both our workforce and our facility are particularly flexible allowing us to work varying shift patterns to produce high volume standard and custom products as well as lower volume requirements for specific customers. We have an excellent ability to respond quickly to changing customer requirements through the flexible management of our production plans and are also able to offer fast turnaround of orders from stock.

High Volume & Flexible Production Processes

Equipped with over twenty-three high speed and conventional power presses that range from 35 to 150 tonne capacities, the torin-sifan press shop processes over two thousand tonnes of prime raw materials annually.

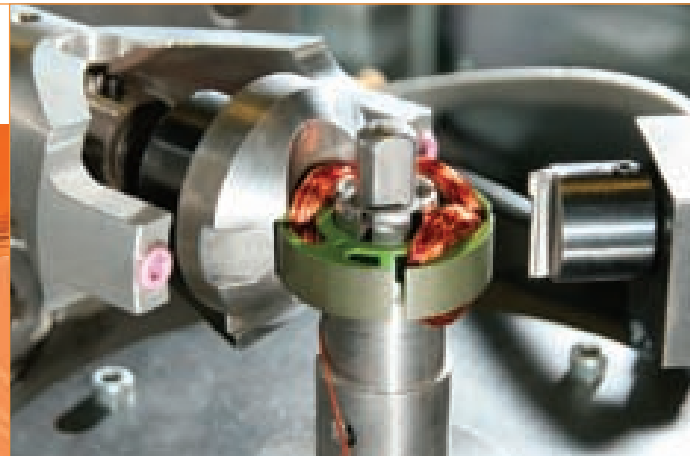
In addition to over two hundred press tools supporting our standard products, CNC punching machines provide the ultimate flexibility to produce fully customised lower volume component designs featuring unique features such as complex forms and tapped holes.

Second stage manufacturing processes include custom designed flexible motor winding machines that not only produce a range of standard AC, Low Voltage DC and 230v **EC** motors that drive the torin-sifan product ranges, but also provide the flexibility to produce an infinitely variable range of motor power options for customised solutions, this is complimented by an electronic PCB design and assembly facility producing a range of PCB designs featuring both surface mount and axial electronic component technology.

In the latter stages of manufacture, a fully equipped welding shop, epoxy powder coating plant, and product range specific production cells that allow us to complete the products final assembly and testing to the exacting quality standards that our customers have come to expect.



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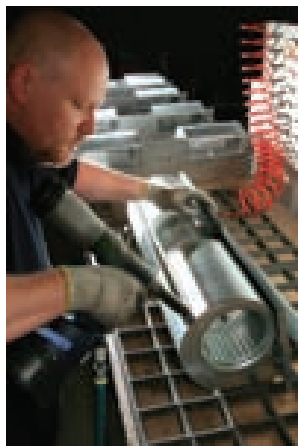


Range Specific Final Assembly

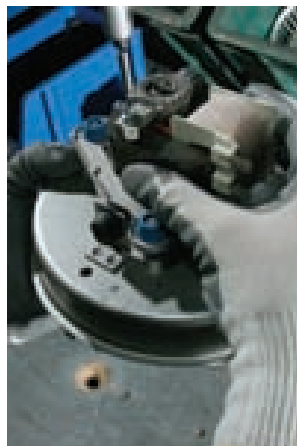
torin-sifan products are completed in four product range specific final assembly cells within our Swindon production facility.



Industrial Direct Drive & Belt Drive Fan Assembly



Fandeck and Applied Blower Assembly



AC Combustion Fan Assembly

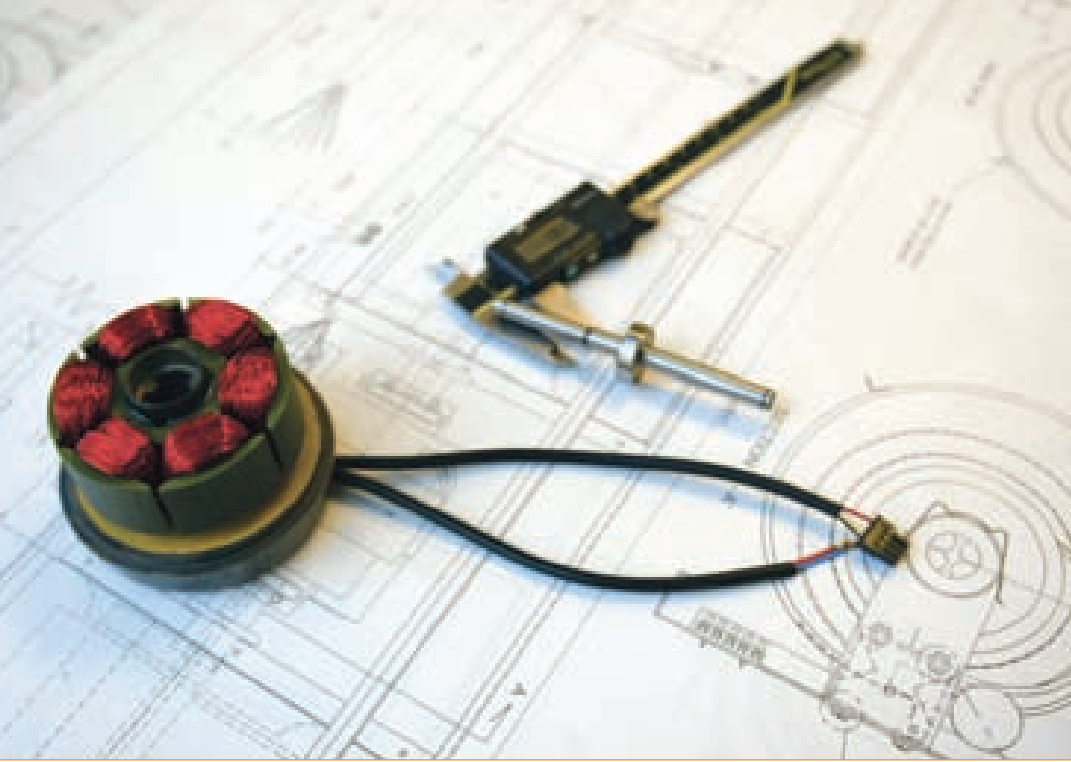


*Low voltage DC and **EC** Product Assembly*



Quality & Reliability

All torin-sifan products are subjected to both in process and end of line quality checks, and full functional testing to ensure that our customers continue to receive product that meets their exact specification in terms of both performance and build quality.

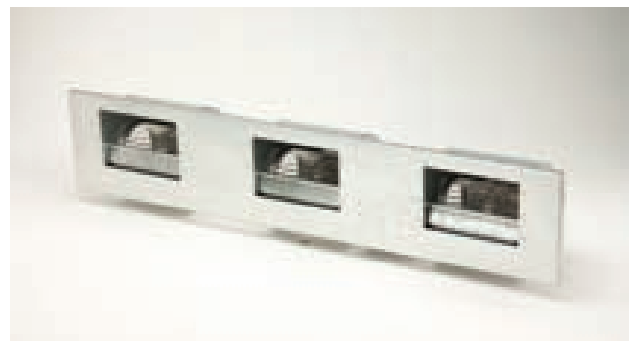


design, development & innovation

Considering that one of our key services is custom designed solutions, rapid design and development capability is very important if we are to meet the requirements of our customers own product development timelines.

This approach to design and development has also allowed torin-sifan to bring innovation to the market first, as demonstrated by our new range of **EC** Fandeck solutions offering lowest specific fan powers to Fandeck users in various markets, but particularly within the Fan Coil Industry.

A key element of our design approach relates to the long term quality and reliability of our products. This is reflected in our laboratory facilities, life test programmes, field trial procedures and extended warranties offered on a number of our products.



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solutions

Standard Range

The products in this catalogue communicate our standard range of products. These products are designed, developed, manufactured and being sold internationally. They are available to be tuned to your individual requirements on short lead times and supplied to you from stock.

Custom Specific

In many instances our customers are looking for innovation to complement a new product development or may have specific issues they need to overcome that cannot easily be achieved with standard products.

torin-sifan enjoys the challenge of developing custom products to individual needs. This may be the materials used to produce the product, the performance, the physical, mechanical or electronic properties or total new concepts. Our Engineering teams are on hand to work with you and meet your aims.

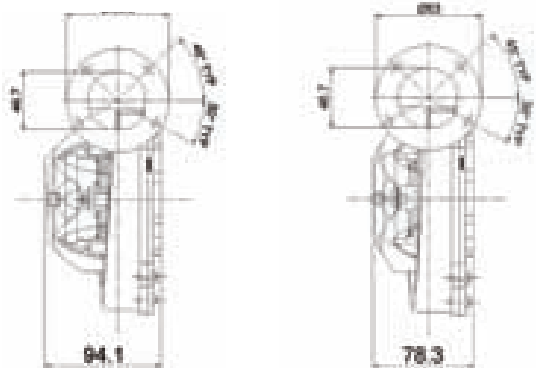
Options

In some instances a customer may wish to have a prime source and a second source for a given fan. Normally this means that both fans need to have certain features that are similar to ensure the fans are fully interchangeable.

To support customers that have this requirement, torin-sifan offers a service called 'Options' whereby we will aim to match an alternative fan, where this is possible, and ensure that our product is fully interchangeable with the alternate source, thus allowing you to choose your partner of choice.

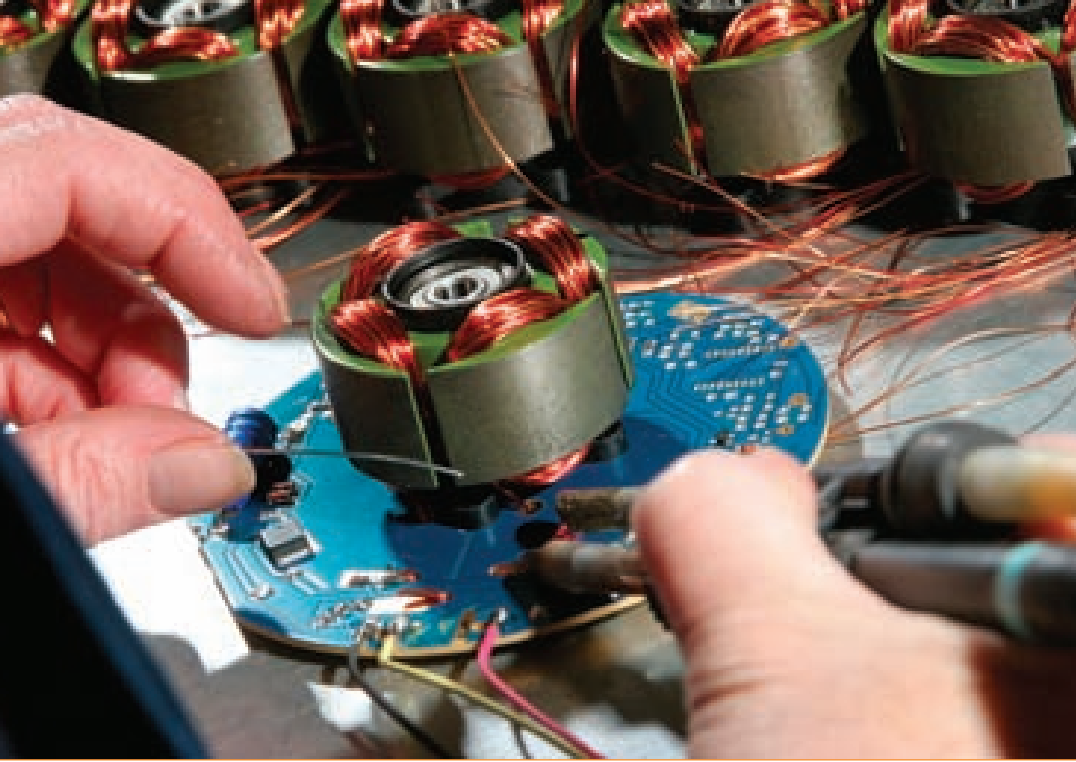
Partnership in practice

The diagram below reflects a custom specific development for a major customer who was keen to reduce the physical envelope of their boiler. torin-sifan worked in partnership with them to develop a fan with a much slimmer profile. We were able to reduce the profile by 16mm helping our customer achieve their goal.



Standard

Low profile



energy saving **technology**

Due to significant focus on legislation and regulations aimed at assisting Governments in meeting their Carbon Emission Reduction targets, the demand for energy saving motors and Fans has risen significantly in all markets that torin-sifan supplies. Whilst European markets have been particularly active in demanding such technology in recent years, this demand is now truly global.

torin-sifan has been active in Low Voltage DC product technology for nearly two decades and have supplied in excess of 2 million Low Voltage DC and 230v **EC** products over the course of this time. torin-sifan's first success with Low Voltage DC product was supplying blue chip organisations within the business machine market. We now supply the vast majority of our markets with both Low Voltage DC & 230V **EC** versions of our traditional AC product ranges.

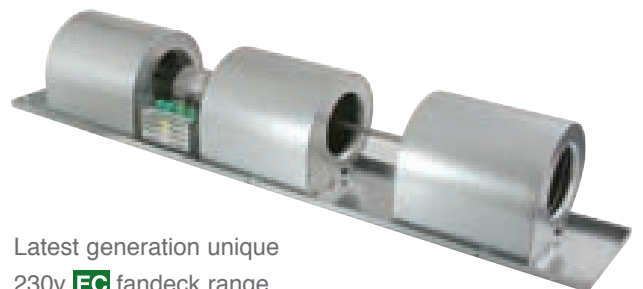


A full range of 230v **EC** double inlet 'Pod' blowers

Our ranges of Low Voltage DC & 230v **EC** product are available with both integrated and separate electronics allowing our customers the ability to choose the solution that best meets the needs of their application. Of course these products are also available in Hall Effect only and Low Voltage DC models for those customers who choose to utilise their own electronics design and wish the fan drive capability to be integral to their own products' mother board electronics.

Our Low Voltage DC & 230v **EC** technology can also be found in our Direct Drive, Combustion Fan, Fandeck and Forward/ Backward Curved product ranges. A number of our products have helped our customers achieve best in class energy performance when independently tested within local country energy efficiency approval requirements.

The Low Voltage DC & 230v **EC** motors that torin-sifan sell are designed, developed and manufactured at our facility in Swindon, UK.



Latest generation unique 230v **EC** fandeck range

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key attributes of 230v **EC** technology

- Approximately 80% efficient due to significantly reduced heat losses as switching is electronic and involves no physical contacts.
- Lower operating temperatures and 'soft-start' feature increasing the life of the bearings/motor.
- Infinitely controllable with significantly higher efficiencies at lower speeds ensuring the highest motor efficiency and lowest power consumption across the speed control range.
- Longer life and highest efficiency ensures reduced life time costs and lower maintenance requirements.
- A more compact product with the ability to run at very high RPM.
- 230V Mains connection compatible.
- Lowest specific fan powers
- Low carbon



128mm 230v **EC**
gas boiler fan



230v **EC** 185-315mm
backward/forward curved
motorised impellers

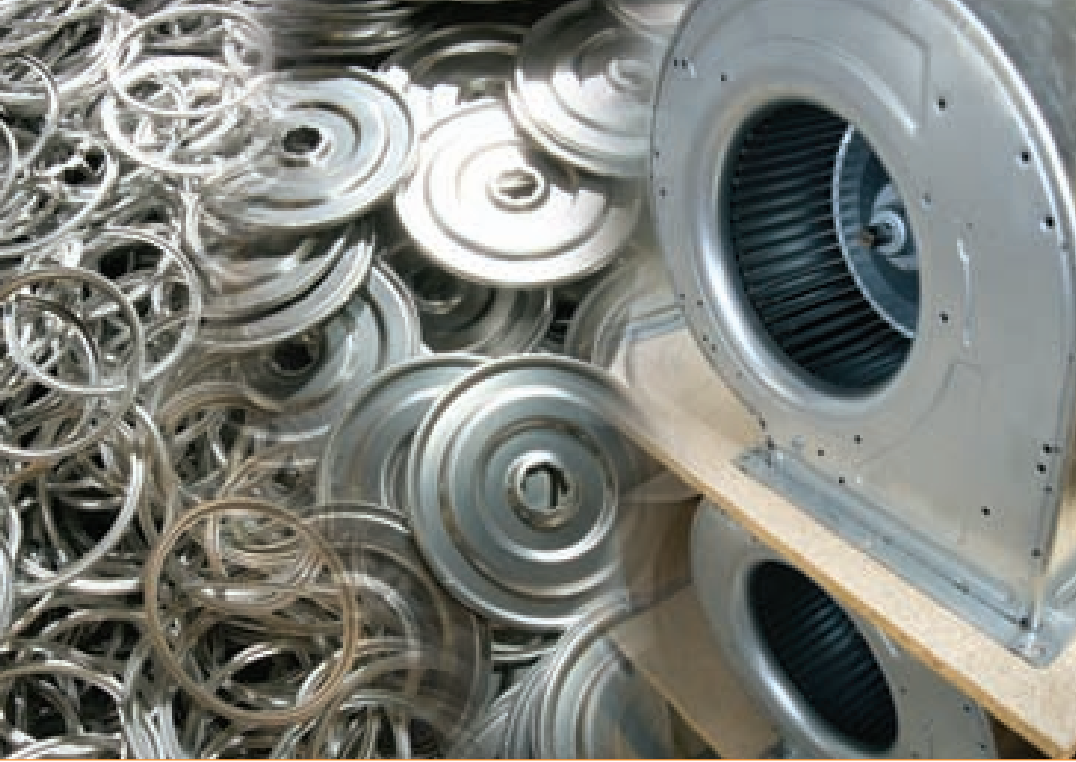
options

Whilst the attributes of **EC** Motors are clear, there are other methods of reducing energy consumption such as utilising AC motors with frequency inverter control.

torin-sifan can supply the full range of energy saving options and specifies solutions based purely around what is in the best interests of our customer.



Direct drive double inlet fans
with on-board or separate
frequency inverter control



product ranges:

direct drive centrifugal

- Single & double inlet – forward curved
- High reliability steel construction
- Wheel sizes from 76mm – 381mm
- Voltage control motors – optional or multi-speed AC
- Three phase AC inverter & **EC** variants

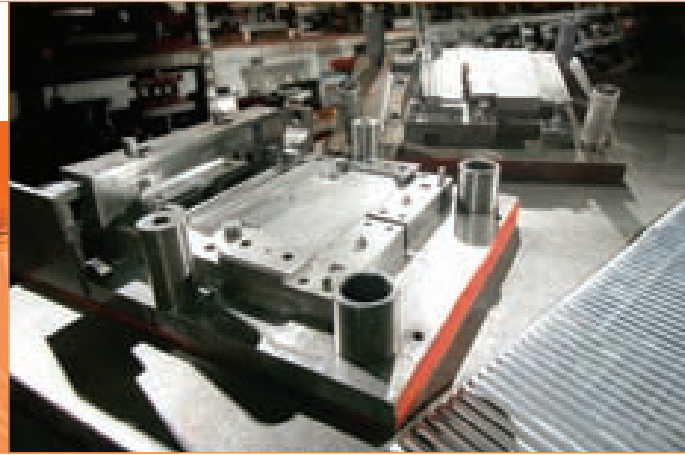


belt drive centrifugal

- High reliability steel construction
- Dynamically balanced impellers
- Impeller range from 180mm – 457mm diameter
- 2 or 3 fans on one common shaft available
- Sealed for life bearings, spider mounted or heavy duty pillow block available
- Belt & pulley drives allow a range of duties within an operational envelope



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direct drive (energy efficient programmable)

- Programmable motors are a development from the direct drive range of products, but use a three phase motor with integral inverter
- The motors can be individually programmed for constant volume, constant pressure or constant speed or to suit a specific customer requirement
- Control of the motor is by an isolated analogue input signal of 0-5 or 0-10v dc or 4-20Ma (for BMS linking) or by dipswitches
- Optional alarms can be set
- Single phase supply 230V 50/60Hz
- Variable frequency regulation gives high efficiency at low speed
- Double inlet, forward curved
- High reliability steel construction
- Impeller sizes from 241mm – 321mm diameter

accessories

All of these products can be supplied with/ without:

- Outlet flange
- Mounting feet
- Cubic frame
- Painted finish



customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.



product ranges:

AC fandeck

- 40w – 550w motor output range
- Single & double shafted solutions
- Impeller diameters from 108 – 241mm
- Impeller lengths from 148 – 241mm
- Decks with single, double, triple & quadruple housings available as standard
- Controllable via transformer
- Products can be painted to meet customer needs
- The concept enables air into a system over a wide path from a compact & efficient unit

customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.

EC fandecks

Our range of **EC** fandecks enjoy many of the features outlined under AC.

In Addition, **EC** fandecks benefit from:

- A highly efficient 230V **EC** Motor
- Full on-board electronics
- Optional power factor correction within on-board electronics
- EMC filtering inbuilt into on-board electronics
- Fully controllable through 0 – 10v signal
- Lowest specific fan powers (w/l/s)
- Lowest noise solutions



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AC centrifugal 'Pod' blowers

- Impeller diameters: 133-190mm
146-180mm
200-052mm
- Galvanised steel housing & impeller
- Forward curved centrifugal blower
- Double inlet
- Can be mounted on a fandeck
- Motor anti-vibration mounted
- Mounting flange options
- Controllable via transformer

EC centrifugal 'Pod' blowers

Our range of **EC** 'Pod' blowers enjoy all of the features outlined under AC and are available in the same range of sizes.

In Addition, **EC** 'Pod' blowers benefit from:

- A highly efficient 230v **EC** Motor
- External rotor motor
- Full on-board electronics within motor construction
- Fully controllable through 0 – 10v signal
- Significantly lower specific fan powers than the AC equivalent

customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.





product ranges:

AC combustion fans

- Typically used within domestic gas boilers and other equipment requiring the removal of the product of combustion
- Shaded pole AC motor design
- Self aligning bearing system
- High temperature ball bearings
- Insulation class H
- Impedance protected
- Up to 3 speeds maybe incorporated
- Speed control by voltage variation
- Stainless steel hardened shaft
- Aluminium coated steel case
- Forward curved steel or aluminium impeller
- Can be supplied with pressure sensing venturi
- Design life minimum 20,000 hours at 120°C bearing temperature
- Low profile versions available to optimise space in design

customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.

EC combustion fans

Our range of **EC** combustion fans enjoy many of the features outlined under AC.

In Addition, **EC** combustion fans benefit from:

- Latest generation highly efficient 230V **EC** Motor
- Available in 24-60v DC, 325v DC & 230v **EC** versions
- Full on-board electronics
- Insulation class B
- Locked rotor and over-current protection
- Speed control by pwm or 0-10v input
- Speed reference output
- Can operate at very high RPM levels (up to 8500rpm)
- Aluminium die cast case
- Anti static plastic backward curved impeller
- Versions available to support up to 52kw appliance heat output



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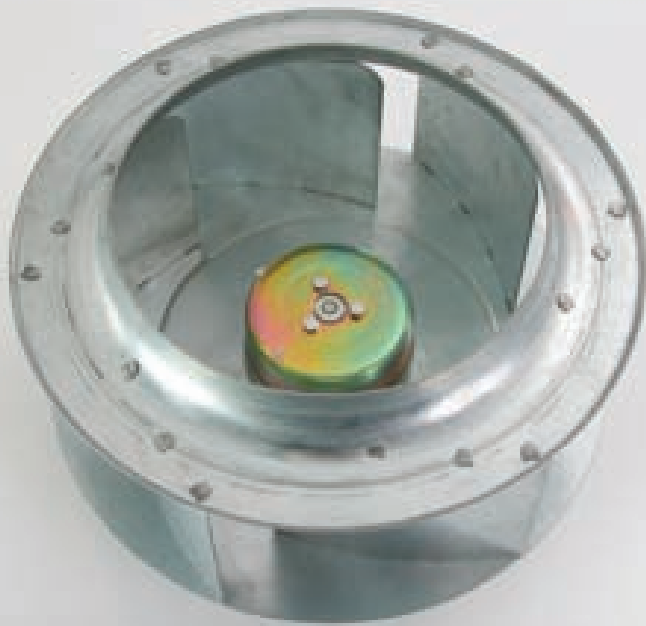
AC centrifugal combustion fans (radiant tube heating fans)

- Typical application is for use in radiant tube gas heating
- Direct drive fans with either totally enclosed or ventilated AC motors
- Can handle hot air up to 250°C
- Forward curved steel impellers
- Galvanised steel housing - can be painted as an option
- Maintenance free ball bearing motors
- Speed controllable via voltage variation
- Power connection via three core cable
- Mounting flange options
- Insulation class H
- C/w integrated cooling impeller and guard

customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.





product ranges:

EC centrifugal backward or forward curved motorised impellers

- Plastic or steel impellers, backward or forward curved
- Electronics enclosure, die cast aluminium
- Available in 24-60v DC, 325v DC & 230v **EC** versions
- Full on-board electronics or separate electronics options
- Maintenance free ball bearings
- Fully speed controllable using 0-10v / pwm
- Can be mounted in any position
- Tacho output
- Locked rotor protection

Impeller diameters: 146mm
160mm
190mm
225mm
250mm
280mm
315mm

customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.



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single inlet centrifugal brushless DC fans

Electronics cooling blowers are designed for applications where a high pressure capability is required to cope with the high density of electronics within an optimised space.

- Typical application is electronics cooling
- Forward curved centrifugal blower
- Long life, high efficiency motors
- A wide range of DC voltages available
- Integrated forward curved plastic impeller
- Various control options
- Speed reference output
- Galvanised steel or plastic housing



customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.



product ranges:

AC Motors

- Open frame shaded pole motors
- 3 – 30w output power
- Sleeve ball bearings
- Self aligning ball bearings
- Controllable via transformer
- Shaft diameter, 6mm as standard



customised solutions available

Please discuss any customisation of these products that you may desire as, in many instances, this can be accommodated very easily.

low voltage DC & 230v **EC** motors

- Available in three sizes ranging from 52-92mm outside diameter
- Output powers from 30-300W
- Maintenance free ball bearings
- Available in 24-48v DC, 325v DC & 230v **EC** versions
- Full on-board electronics or separate electronics options
- Controllable via pwm or 0-10v signal



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flexibility

In addition to offering a tailored high volume production service to our OEM customers, torin-sifan also offers a dedicated service to small volume OEM's/ Distributors that demand products from our standard ranges.

This service is called:

torin-sifan direct

torin-sifan direct is a service that offers a range of our fastest moving products, particularly (though not limited to) direct drive & belt drive ranges.

These products are held in stock and are fully boxed. They are available on a 24 hour emergency lead time delivery service. These products can also be purchased in very small quantities and it is also possible to pay for these products by credit card should account facilities not be suitable.

Whether you are a large volume OEM business or a much smaller manufacturer/ distributor, torin-sifan makes it easy for all customers to gain access to our products.

stocked belt drive
and direct drive fans

torin-sifan
direct

Torin-Sifan is stocking a range of boxed galvanised belt drive and direct drive fans available for immediate shipment.

Detailed drawing and technical data, including a belt drive selection programme, can be viewed and downloaded by visiting <ftp://exchsrv.torin-sifan.com> or enquiring at the contact numbers below. Declarations of Incorporation for each model are available on request.



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