


low carbon **-ec**
fandecks





torin-sifan

For over 100 years, torin-sifan have been a leader in servicing the Air Movement requirements of our customers. From our Head Office and Manufacturing facility in the United Kingdom we supply annually over 1 million products to the International Air Movement Industry.

Fifty percent of our production volumes are products incorporating low carbon  technology with this growing significantly each year due to European legislation requirements.

international markets

Our customers are involved in numerous diverse markets ranging from Heating, Ventilation, Air Conditioning and Refrigeration industries to Business Machines, Telecommunications & Domestic Appliances. Our diverse range of standard and customised products are well suited to the needs of these sectors and more.

With sales evenly split between our home market in the UK and numerous export customers, all serviced by our technically competent international sales team, our

business is truly international. Support is provided by experienced product development and applications engineers backed up by an excellent research and development facility.

technology partners

Understanding the needs of our customers, the legislation that affects our industries and creating value & innovation is at the very heart of our business. This is reflected in a clear and continual commitment to research & development.

This philosophy has helped torin-sifan to be at the forefront of our industry in the development of a full range of energy saving low carbon  products. This has positioned us as the preferred choice for energy efficient Air Movement solutions in various markets where local legislation is demanding low carbon technology.

torin-sifan is an **ISO 9001** approved organisation.



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fandeck pedigree

torin-sifan has established itself as a leading supplier in Europe for fandeck style air movement products having been a producer for the past 20 years. In addition, torin-sifan are the pioneers of low carbon **ec** fandeck technology, with our high profile launch in 2009 of the first **ec** fandeck on the market at ISH Frankfurt.

Our commitment to developing low carbon **ec** fandecks with best in class specific fan power and noise performance has led to torin-sifan becoming the preferred solution in applications where energy regulation is clear.

A good example would be in fancoil applications where torin-sifan continues to increase its European market share due to the increasing requirements for low power consuming product.

Our latest generation low carbon **ec** range offers the ultimate in efficiency and controllability with full onboard electronics.

In addition to the **ec** development, torin-sifan continue to offer a fully flexible approach to manufacturing fandecks. Deck plates are all unique to each customer specification, with flexibility on the size of housing and impellers specified and also their mounting positions.

Painted finish is also available as an option.





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low carbon technology


low carbon  motors have grown in popularity enormously over the past five years in many areas of Europe. This is due primarily to the significant energy reduction legislation that has been introduced and the demands this has placed on the product development plans of manufacturers.

As a result, it is very clear to see why  motors have become the logical choice for manufacturers as they seek to develop products with best in class energy performance for their customers.

Firstly,  motors are approximately 30% more efficient than their AC counterparts due to the different methods they employ to generate torque. An AC motor creates torque by means of inducing current through copper windings or aluminium bars, a process that consumes energy. However an  motor uses permanent magnets to create an interactive magnetic field. The generation of this interactive magnetic field in an  motor by permanent magnets does not consume energy.

In addition, the 30% motor efficiency benefit can be significantly enhanced by the incorporation

of a full electronics package, either on-board or separate to the motor. This offers the flexibility of infinitely variable speed control and the ability for the electronics to convert mains voltage to DC supply at a level optimal for efficient motor operation. All of this is self contained within the motor electronics.

In an  motor, commutation is achieved by the motor's electronic circuitry. This provides exactly the required current, at exactly the right time, for precise control of the motor throughout its speed range. The same electronics can also self generate a 10V output to allow control of the motor via a potentiometer. In addition the same electronics is capable of receiving inputs (0-10V) from external sources. This allows for the precise control of various conditions such as humidity, CO₂, temperature, pressure etc. In any given situation, the fan can be made to move the exact amount of air required at a given point in time, through speed regulation.



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Low Carbon Technology

The use of speed control has a significant effect in reducing energy consumption. Reducing the speed of an **ec** motor by 50% can reduce its power consumption by a factor of 8 in an air moving application. Running a fan faster than required is therefore very wasteful.

Furthermore, AC Fans have a peak efficiency at a single point on their operating curve, with efficiency varying substantially under speed control. **ec** motors on the other hand have an efficiency that can be made to vary very little across the full speed profile of the fan.

It is also worthy of note that **ec** motors operate at very low noise levels under speed control and do not generate the characteristic whining noises associated with AC motors when speed controlled.

Combining the efficiency of the **ec** motor and the efficiency available from speed control can therefore result in up to 75% overall efficiency gains for **ec** motors when compared to their AC equivalents.

- **Efficiency** - Up to 75% more efficient than a traditional AC motor
- **Control** - Infinite speed control by 0-10Vdc without loss of efficiency.
- **Intelligence** - Programmable for constant speed and protection features.
- **Low Noise** - For quiet operation.
- **Low specific fan power** - for best in class performance





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low carbon fandecks

description


The torin-sifan low carbon  fandeck range is powered by intelligent, controllable and highly efficient  motors that are supplied with full onboard drive electronics.

The range of impeller diameters available as standard range from 108mm – 186mm. Impeller lengths range from 148mm – 222mm.

Custom designed fandeck plates are produced to our customers specification.


The range of low carbon  motors are available in three sizes – 40W, 80W & 147W output powers.

The motor is Class B insulated and is of sleeve bearing design.

All  fandecks are dynamically balanced to ISO1940 G4.0 as standard.

This type of fan is used extensively in applications where multiple fans are needed to achieve a specified airflow where space limitations exist. Air curtains, Fan coil & Fan convector heaters are amongst the most popular products where fandecks are used.



Apart from the efficiency of the  motor used in these products, their built in intelligence and inherent controllability, the flexibility provided by a fandeck solution gives the designer considerable scope when designing product



customised solutions available

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

The products in this brochure are examples of what is possible. Our range is very large, so please speak to us about your specific needs.

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features & benefits

standard features

- Mains power input of 230V, 50 or 60Hz.
- Single and double shafted solutions.
- Single, double, triple and quadruple housing decks available as standard.
- Soft start
- Speed control without loss of efficiency by 0-10Vdc input signals.
- 10Vdc output integrated into the motor so speed can be controlled by a simple potentiometer without the need for an external signal.
- Tacho output signal.
- Locked rotor protection
- Over temperature protection
- Alarm output
- EMC filtering inbuilt within onboard electronics
- CE/ EMC certified.
- **Lowest specific fan power and noise in it's class.**

optional features:

- Painted finish
- Custom deck plate design
- Custom housings & impeller designs
- Active power factor correction

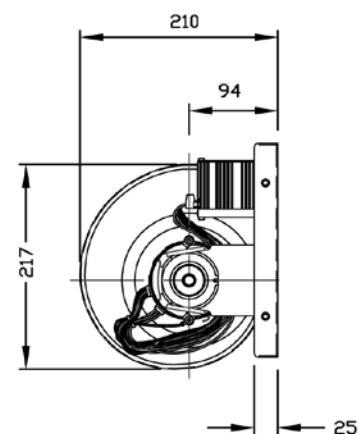
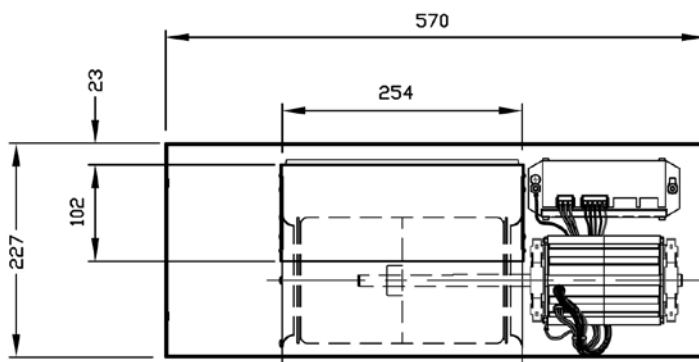
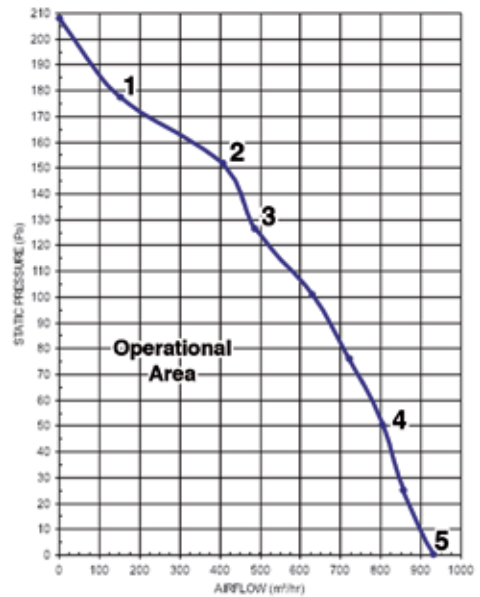




single **-ec** fandeck (part no DDN146-222)

DDN 146-222 80 Watt -ec Motor	
Supply (V/Ph/Hz)	230/1/50 or 60
Max Airflow (M3/Hr)	925
Max Current (A)	0.91
Max Input Power (W)	110
Max Speed (rpm)	1572

DDN 146-222 Performance Data			
Point No	Speed (RPM)	Current (A)	Input Power (W)
1	1572	0.34	32
2	1569	0.54	62
3	1523	0.58	68
4	1305	0.83	99
5	1210	0.91	110



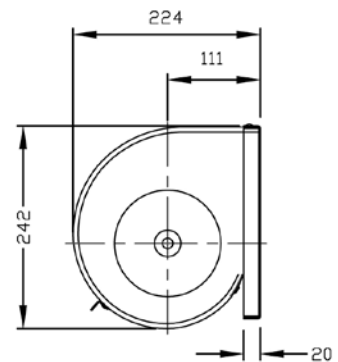
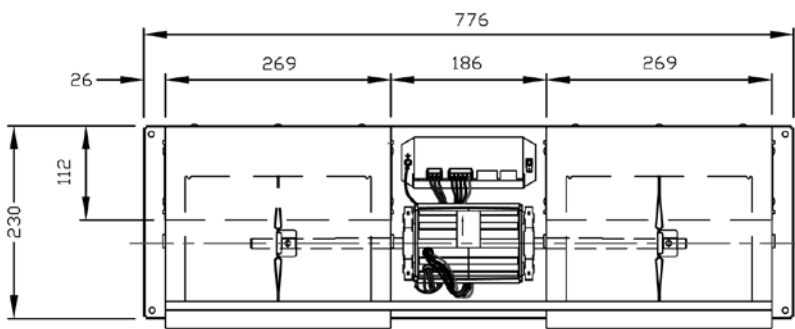
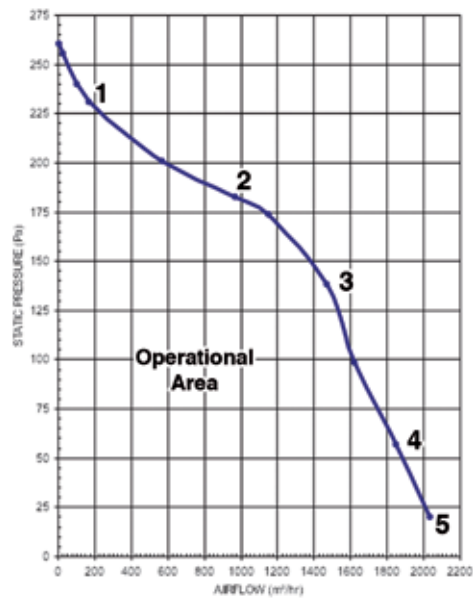
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twin **-ec** fandeck (part no DPN160-222)


DPN 160-222 147 watt -ec Motor	
Supply (V/Ph/Hz)	230/1/50 or 60
Max Airflow (M3/Hr)	2020
Max Current (A)	1.77
Max Input Power (W)	263
Max Speed (rpm)	1569

DPN 160-222 Performance Data			
Point No	Speed (RPM)	Current (A)	Input Power (W)
1	1565	0.71	95
2	1565	1.44	206
3	1491	1.77	258
4	1310	2.55	255
5	1226	2.52	251

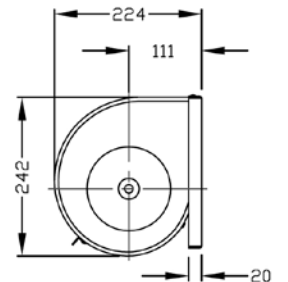
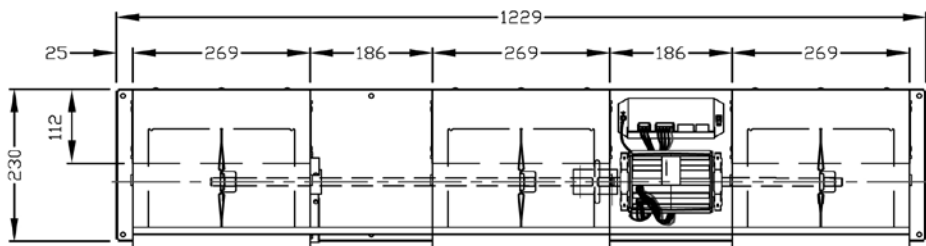
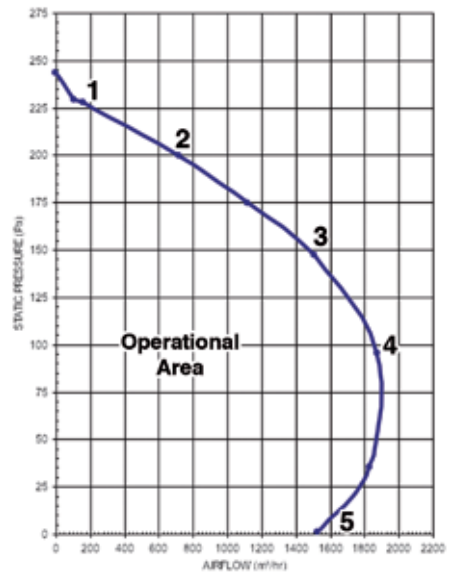




triple-ec fandeck (part no DMN160-222)

DMN 160-222 147 Watt  Motor	
Supply (V/Ph/Hz)	230/1/50 or 60
Max Airflow (M3/Hr)	1910
Max Current (A)	1.77
Max Input Power (W)	260
Max Speed (rpm)	1560

DMN 160-222 Performance Data			
Point No	Speed (RPM)	Current (A)	Input Power (W)
1	1554	0.9	128
2	1558	1.28	187
3	1451	1.76	260
4	1261	1.62	257
5	546	0.3	36



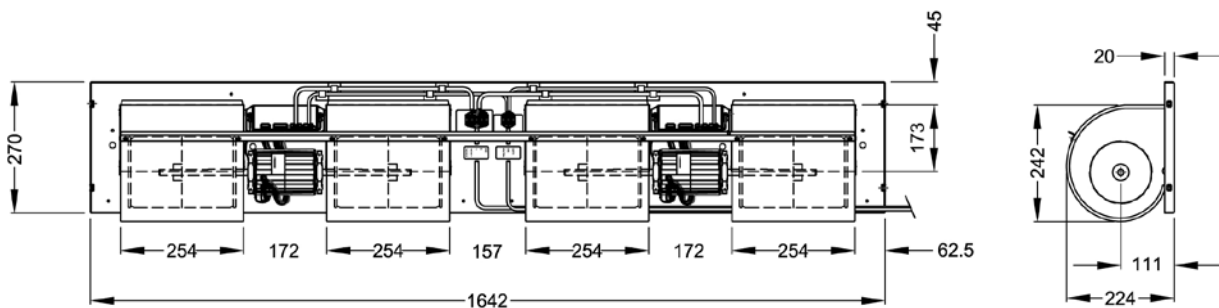
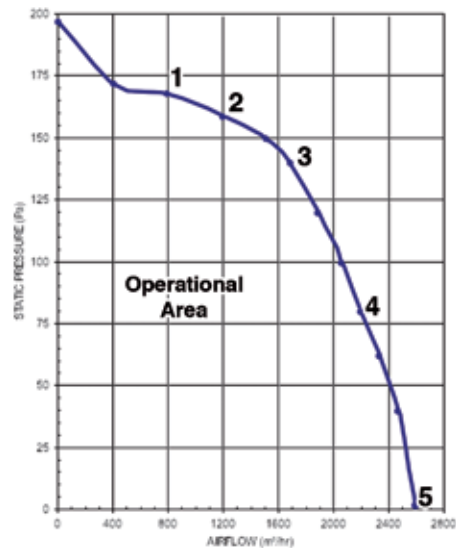
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quad ^{ec} fandeck (part no DMN146-222)

DMN 146-222 147 Watt ^{ec} Motor	
Supply (V/Ph/Hz)	230/1/50 or 60
Max Airflow (M3/Hr)	2525
Max Current (A)	1.83
Max Input Power (W)	266
Max Speed (rpm)	1567

DMN 146-222 Performance Data			
Point No	Speed (RPM)	Current (A)	Input Power (W)
1	1560	1.27	130
2	1560	1.60	181
3	1523	1.82	252
4	1345	1.79	261
5	1066	1.30	185



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