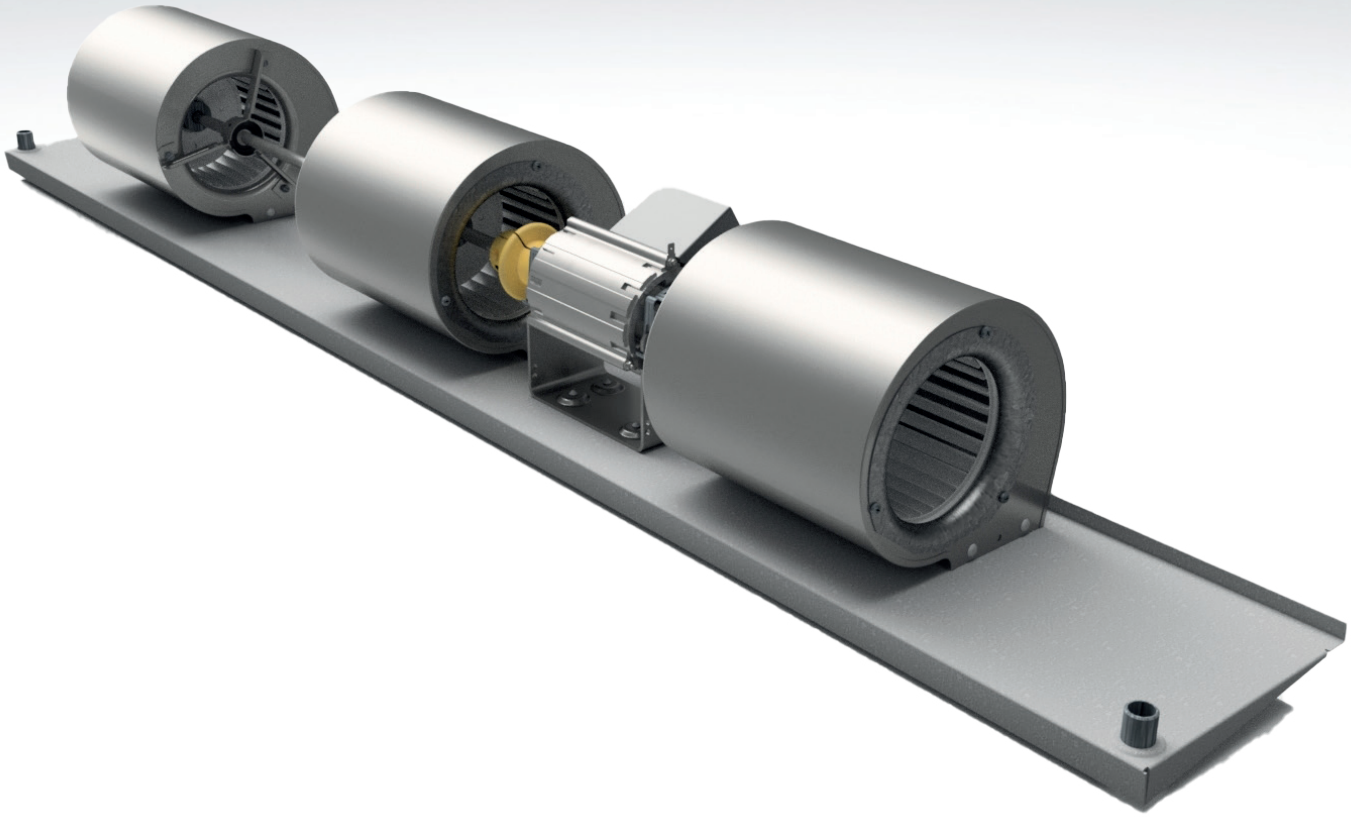
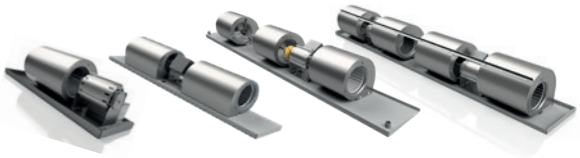
torin

Efficiency with every rotation

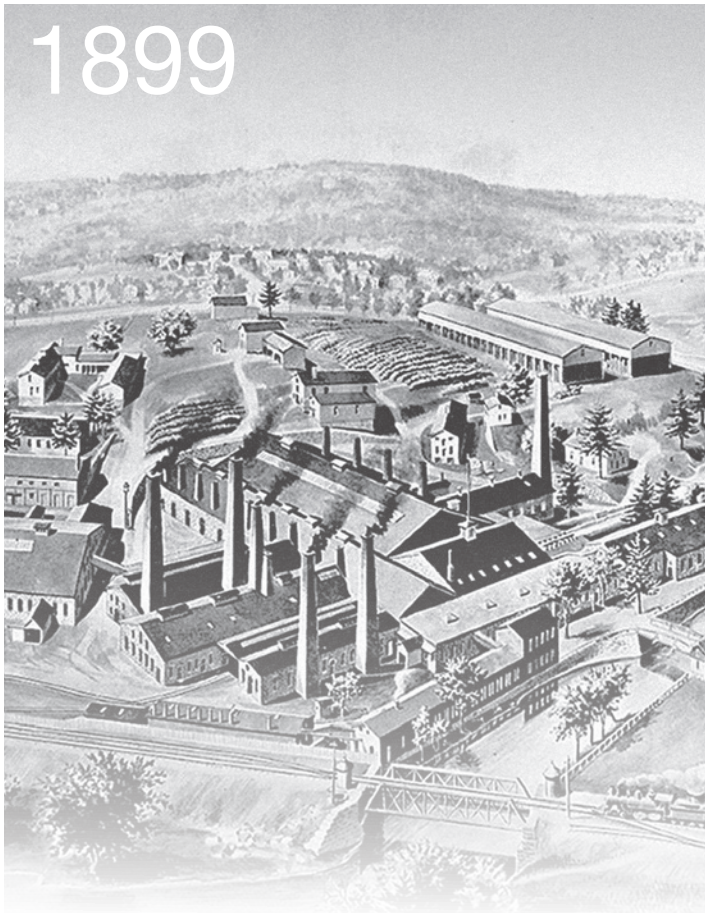


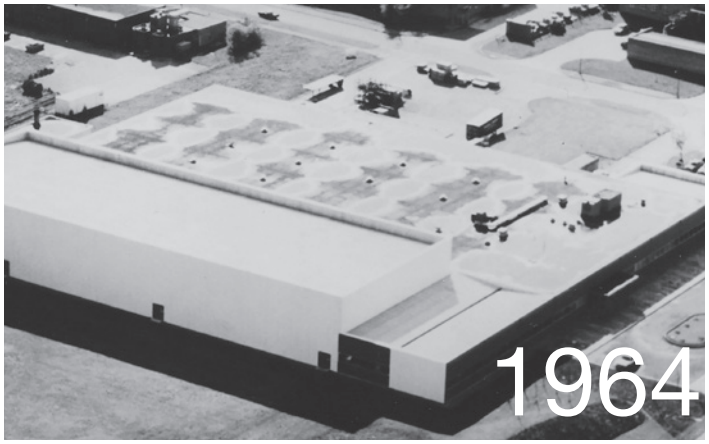
Energy Saving Technology



# Fandecks

## High Efficiency





# For over a century...

## History

Originally formed over 100 years ago as part of the USA based Torin Corporation, and then established as a UK subsidiary in 1964; Torin have developed into an independent market leader in the supply of air-movement products, incorporating over 60 years of UK innovation.

## Core Focus

Energy Saving Technology

Torin is a technology expert in the design, development and manufacture of centrifugal impellers, traditional AC motors and highly efficient Electronically Commutated (EC) motors.

Torin products exceed the requirements of European energy saving legislation; helping our customers to position themselves at the forefront of their markets.

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Efficiency with every rotation


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Efficiency with every rotation

## About us

Torin design and manufacture highly efficient AC and EC motors, motorised impellers and fans for the residential and commercial HVAC manufacturing markets worldwide.

With over 60 years experience developing and manufacturing products, we sell over 1 million units per year and manufacture from two production sites in the UK.

## More than 60 years of Innovation

Since our humble beginnings on the banks of the Naugatuck river in Connecticut USA, we have come a long way changing names, continents, owners and innovating the most efficient electric motor technology. We continue to invest in our local community, British engineering and raising the profile of Torin throughout the world.

## International markets

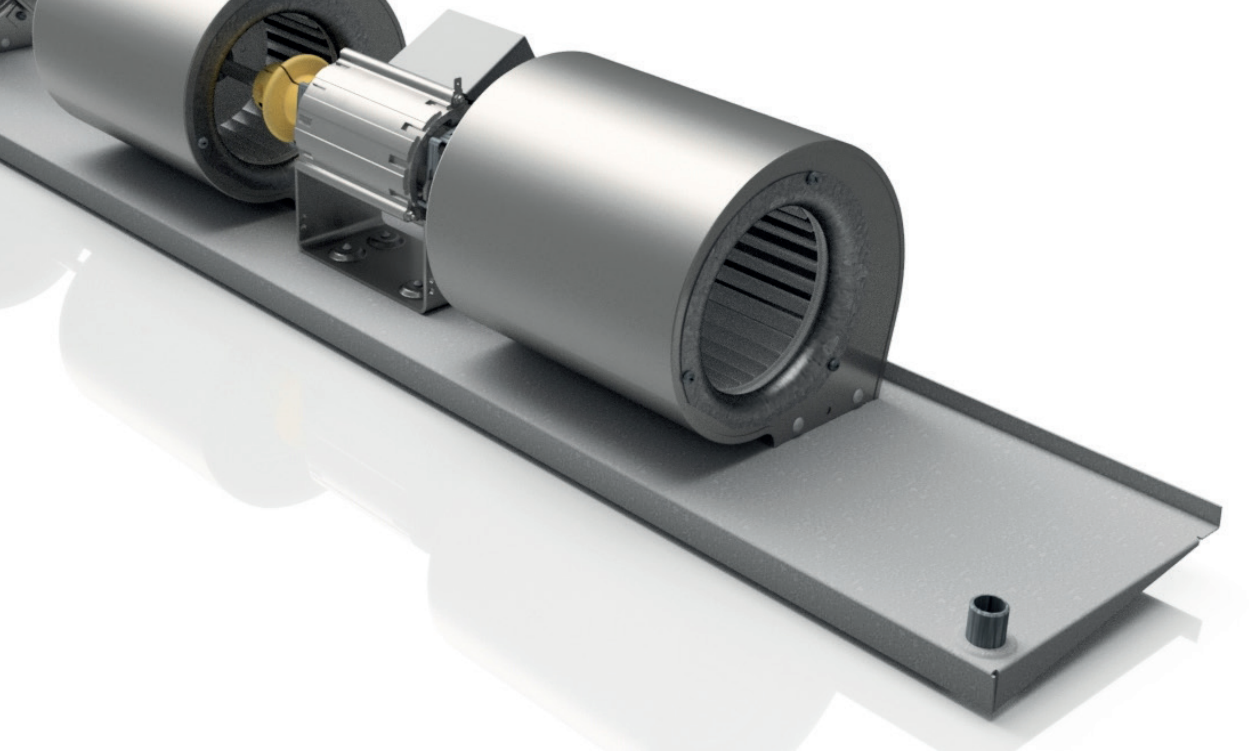
We are a truly international business with our sales evenly split between our home market in the UK and numerous export customers, all serviced by our technically competent international sales team. Support is provided by experienced product development and applications engineers backed up by an excellent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

## Customised Solutions

We understand the ever-changing market, therefore we offer customised product solutions to meet your exact needs. Whether you require a change to one of our standard products or by managing a truly joint development partnership to produce a product customised to meet your requirements.

## Current examples include:

- Specific housing designs, including material thickness, mounting-hole locations and flange design.
- Lead lengths cut to size and your specified plug fitted.
- External or on-board electronics options
- Performance optimisation, including impeller and electronics design
- Licensing agreements for electronic circuitry
- Production and balancing of fans within your own product assemblies.



## EC Fandeck

Torin 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 are the pioneers of low carbon, EC fandeck technology, with our high profile launch at ISH in Frankfurt.

Our commitment to developing low carbon, EC fandecks with best in class specific fan power and noise performance has led to Torin becoming the preferred solution in applications where energy regulation is clear.

A good example would be in fancoil applications where Torin 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 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.

## Features and Benefits

- Mains power input of 230V, 50 or 60Hz
- Single and double shafted solutions
- Single, double, triple and quad housing decks available.
- Soft start.
- speed control.
- 10Vdc output integrated into the motor, so speed can be controlled by a potentiometer without the need for an external signal.
- Tachno output signal
- Locked rotor protection
- Alarm output
- EMC filtering inbuild within onboard electronics
- CE/EMC certified
- Lowest specific fan power and noise in it's class.
- Painted finish
- Custom deck plate design
- Programmable for constant speed and protection features.
- Low noise
- 75% more efficient than a traditional AC motor

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Efficiency with every rotation

# What is a fandeck?

A Fandeck in essence, is an assembly of centrifugal fans using a single motor to drive them through a common shaft, mounted on a base or `deckplate'. Fandecks can also consist of multiple DIDW (Double Inlet, Double Width) an array of pod blowers or 'pod' fans as they are commonly termed attached to a deck plate, with each blower having its own drive motor (either AC or EC motor technology).

## How does it work?

A Fandeck works in much the same way as a single centrifugal blower unit, but as there is typically more than one blower mounted in parallel, the flow rate delivered from these products is approximately multiplied by the amount of blowers attached to the deck plate. Moving a single motor to drive the blowers delivers market leading efficiency as well as offering a more cost effective solution for mounting individual blowers with independent motors. It also means that each blower provides a balanced airflow.

For EC Fandeck models, the motors operate in constant speed mode, maintaining a fixed speed based on the control voltage input. Variants of EC Fandecks include versions with two separate motors (for example driving four blower units in total), with this arrangement the control connections are linked together so that only one speed control input signal is required. EC Fandecks incorporating multiple pod blowers will typically have the control interfaces linked together in a daisy-chain arrangement so that only one control input signal is required. Pod based Fandecks configured in this way may also require an additional EMC filter to reduce conducted and radiated emissions – which can add further to the overall cost.

# What applications can fandecks be used for?

Fandecks are typically used in applications requiring a high level of airflow output at a relatively low system pressure. The main applications include air-curtains and fancoils. Air-Curtains are typically used to create a barrier of air that prevents the loss of heat, for example when placed above doorways in retail outlets or in logistic warehouses. Fancoils are typically used for air conditioning as well as other heating and refrigeration applications.

## Low carbon fandecks

The Torin low carbon, EC fandeck range is powered by intelligent, controllable and highly efficient EC motors that are supplied with full onboard drive electronics. This range are available in three sizes, 40W, 80W and 147W output powers.  The motor is Class B insulated and is of sleeve bearing design.

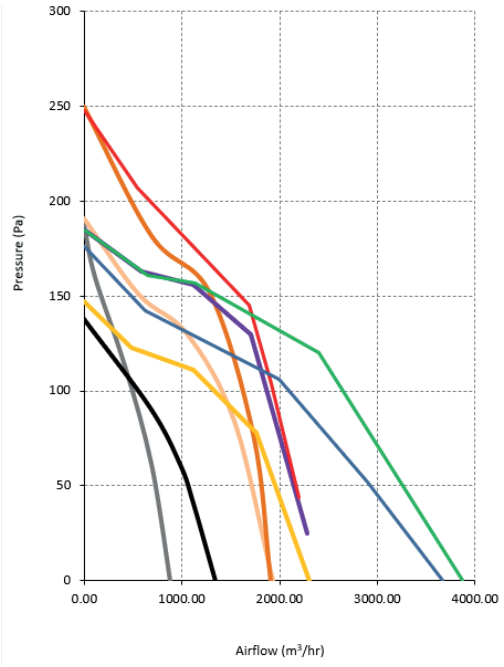
All EC fandecks are dynamically balanced to ISO 1940 G4.0 as standard.

## Customised solutions

We understand not every product offers the most optimal solution for your application. We can work together to provide a customised solution for you.

# Fandecks range summary

| | Single 146 -236 | Twin 133-222 | Twin 146-222 | Twin 160-222 | Triple 133-178 | Triple 146-222 | Triple 160-222 | Quad 133-222 | Quad 146-222 |
|---|---|---|---|---|---|---|---|---|---|
| **Technical Data** | | | | | | | | | |
| Supply Voltage (V/Ph/Hz) | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 | 230 /1/50 |
| Max Airflow | 878 | 1342 | 1934 | 1907 | 2304 | 2280 | 2198 | 3671 | 3870 |
| Max Current | 1.1 | 1.3 | 1.88 | 1.98 | 1.9 | 1.9 | 1.83 | 3.08 | 3.43 |
| Max Input Power | 141 | 190 | 260 | 260 | 255 | 256 | 254 | 428 | 473 |
| Max Speed | 1550 | 1560 | 1550 | 1550 | 1550 | 1550 | 1550 | 1550 | 1550 |
| ErP Efficiency Rating (FMEG) | NA | NA | NA | 45 | 45 | 44 | 45 | 44 | 44 |
| Ip Rating | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Motor Insultation Class | F | F | F | F | F | F | F | F | F |
| Temperature Range °C | -20 to +50 | -20 to +50 | -20 to +40 | -20 to +50 | -20 to +40 | -20 to +50 | -20 to +50 | -20 to +50 | -20 to +50 |




## Consolidated Graph - Fandeck range

- Single 146-236
- Twin 133-222
- Twin 146-222
- Twin 160-222
- Triple 133-178
- Triple 146-222
- Triple 160-222
- Quad 133-222
- Quad 146-222

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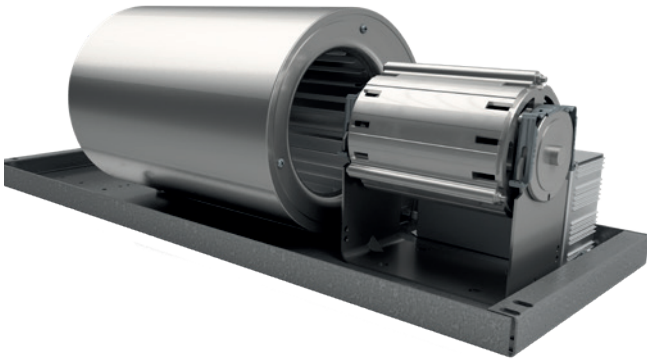
Efficiency with every rotation



# High Efficiency Fandecks

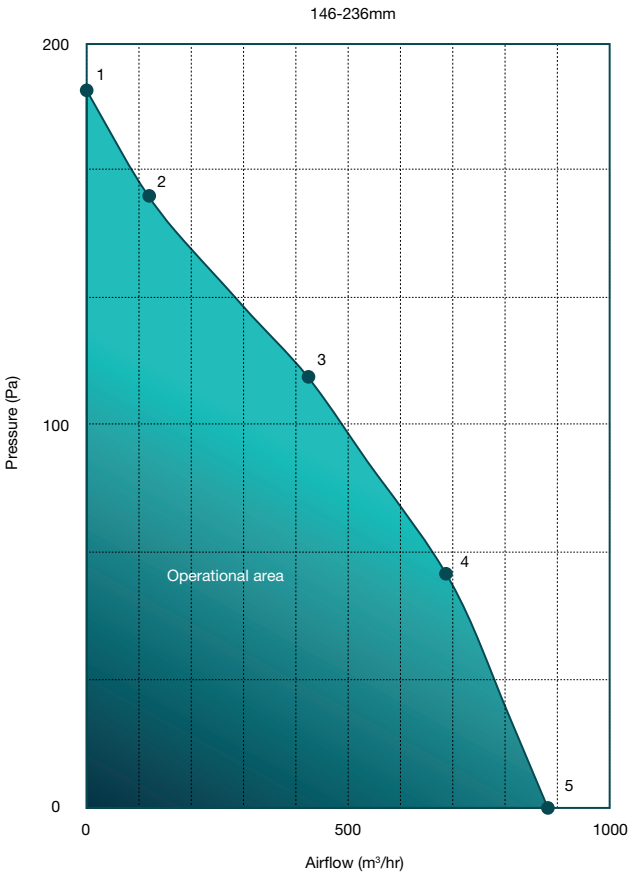
Single - 146mm - 236mm

## Technical Data

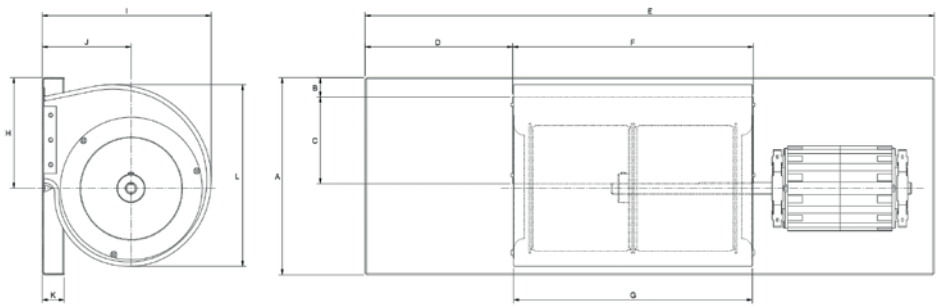
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 878 |
| Max Current (A) | 1.1 |
| Max Input Power (W) | 141 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | NA |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 188 | 0 | 0.38 | 1534 | 43 |
| 2 | 160 | 113 | 0.4 | 1537 | 46 |
| 3 | 113 | 419 | 0.6 | 1535 | 72 |
| 4 | 61 | 690 | 0.83 | 1536 | 104 |
| 5 | 0 | 878 | 1.09 | 1534 | 141 |

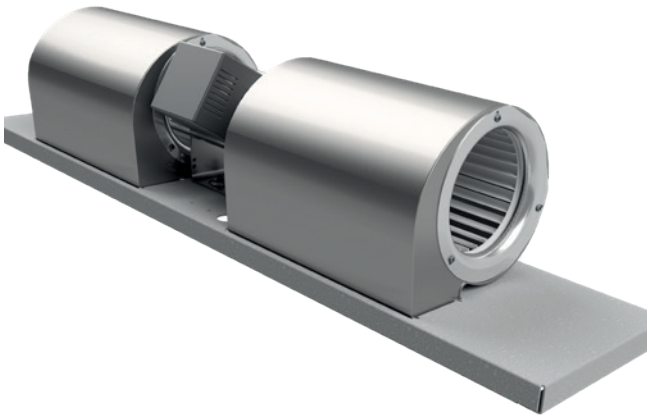



Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 223 | G | 271.5 |
| B | 22 | H | 125.2 |
| C | 98 | I | 191.9 |
| D | 165.8 | J | 100.8 |
| E | 645 | K | 25 |
| F | 273.5 | L | 205.4 |



# High Efficiency Fandecks

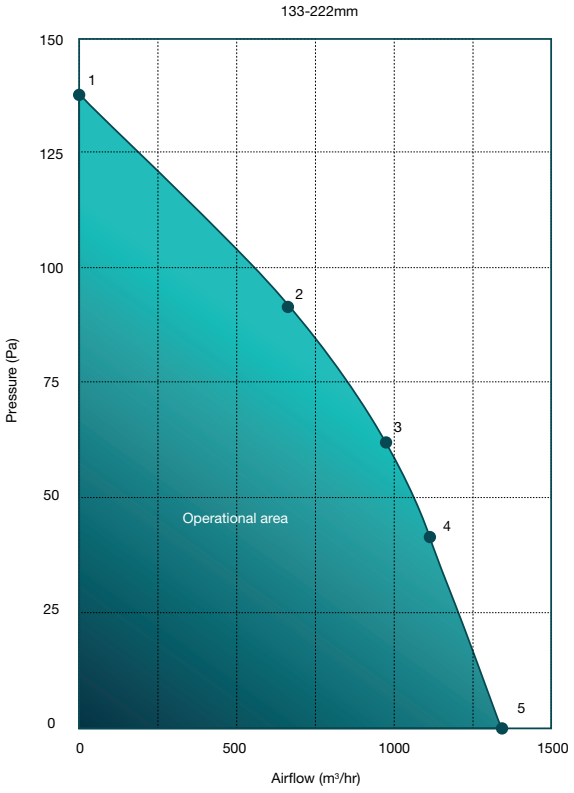
Twin - 133mm - 222mm

## Technical Data

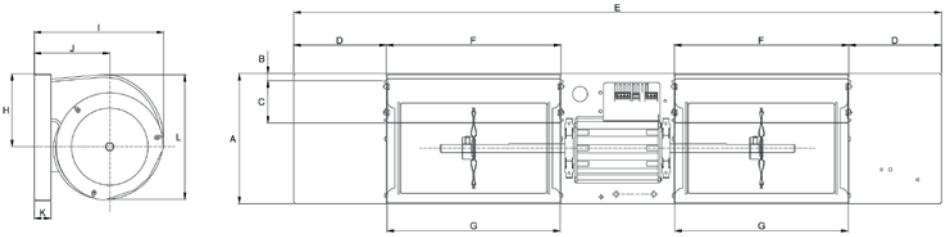
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 1342 |
| Max Current (A) | 1.3 |
| Max Input Power (W) | 190 |
| Max Speed (rpm) | 1560 |
| ErP Efficiency Rating (FMEG) | NA |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 138 | 0 | 0.38 | 1554 | 52 |
| 2 | 91 | 679 | 0.68 | 1561 | 97 |
| 3 | 61 | 985 | 0.92 | 1563 | 133 |
| 4 | 41 | 1116 | 1.07 | 1562 | 152 |
| 5 | 0 | 1342 | 1.32 | 1563 | 190 |




Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 190.0 | G | 254 |
| B | 7.5 | H | 109 |
| C | 64.8 | I | 194.3 |
| D | 136.1 | J | 113.4 |
| E | 950 | K | 25 |
| F | 255.8 | L | 186.3 |

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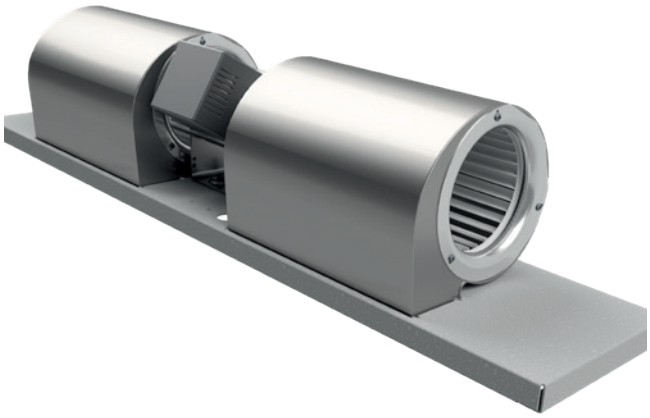
Efficiency with every rotation



# High Efficiency Fandecks

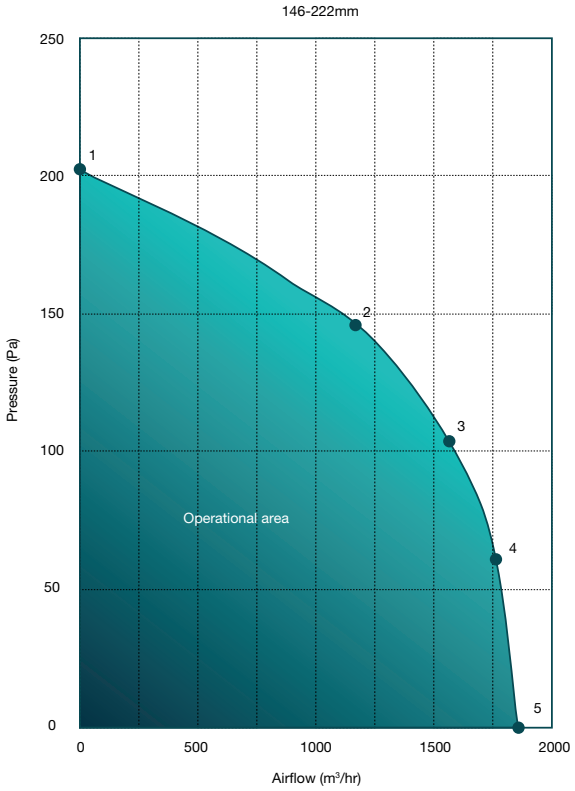
Twin - 146mm - 222mm

## Technical Data

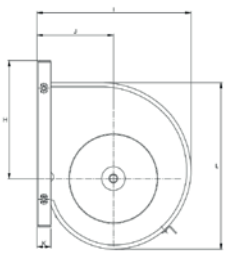
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 1934 |
| Max Current (A) | 1.88 |
| Max Input Power (W) | 260 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | NA |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +40 |

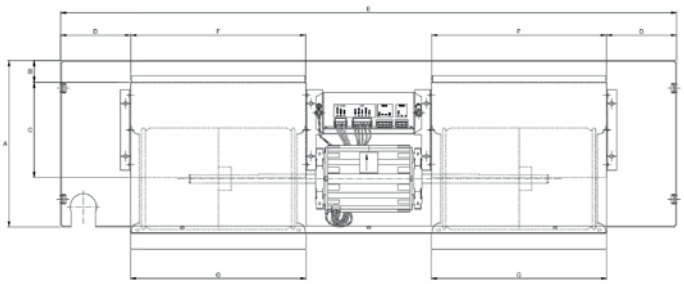
## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 195 | 0 | 0.51 | 1542 | 63 |
| 2 | 151 | 561 | 0.79 | 1545 | 100 |
| 3 | 130 | 1057 | 1.17 | 1541 | 154 |
| 4 | 84 | 1540 | 1.63 | 1525 | 219 |
| 5 | 0 | 1934 | 1.88 | 1448 | 260 |



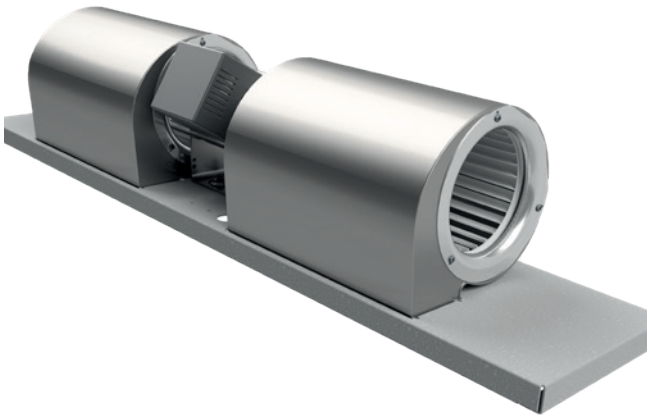

Tested in accordance with ISO 5801. Installation method - type A.





## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 255 | G | 254 |
| B | 14 | H | 152.8 |
| C | 137 | I | 222.9 |
| D | 141 | J | 110.6 |
| E | 1492 | K | 20 |
| F | 256.7 | L | 239.6 |



# High Efficiency Fandecks

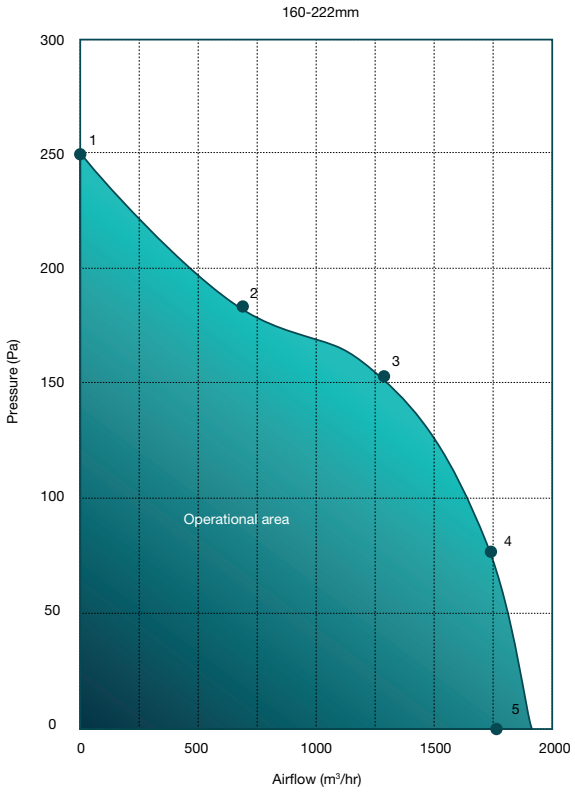
Twin - 160mm - 222mm

## Technical Data

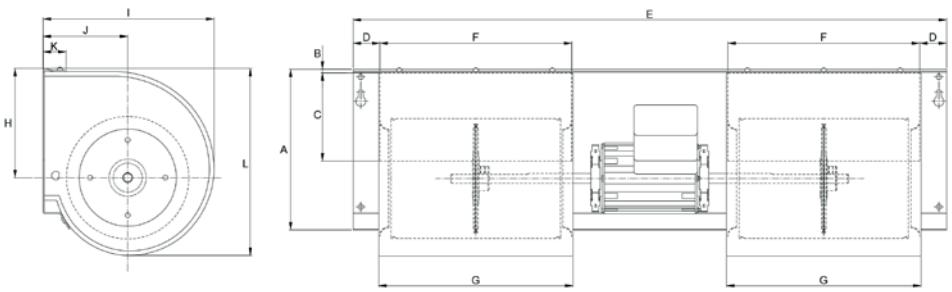
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 1907 |
| Max Current (A) | 1.98 |
| Max Input Power (W) | 260 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | 45 |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 250 | 0 | 0.52 | 1560 | 71 |
| 2 | 182 | 689 | 0.95 | 1560 | 119 |
| 3 | 152 | 1284 | 1.62 | 1562 | 208 |
| 4 | 76 | 1735 | 1.97 | 1460 | 260 |
| 5 | 0 | 1907 | 1.92 | 1325 | 254 |




Tested in accordance with ISO 5801. Installation method - type A.




## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 210 | G | 254 |
| B | 5 | H | 142.8 |
| C | 115 | I | 223.5 |
| D | 34.1 | J | 110.6 |
| E | 1229 | K | 30 |
| F | 250.8 | L | 240.2 |

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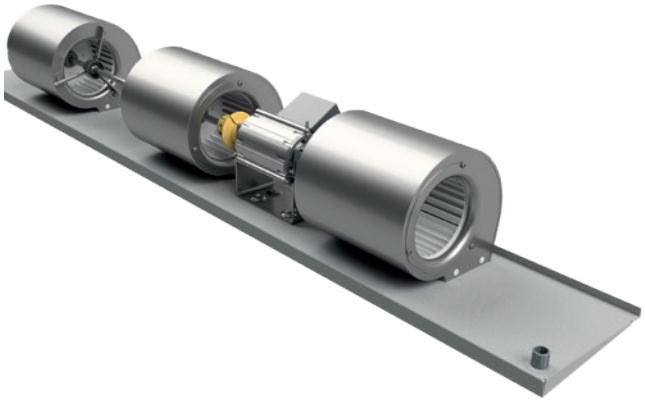
Efficiency with every rotation



# High Efficiency Fandecks

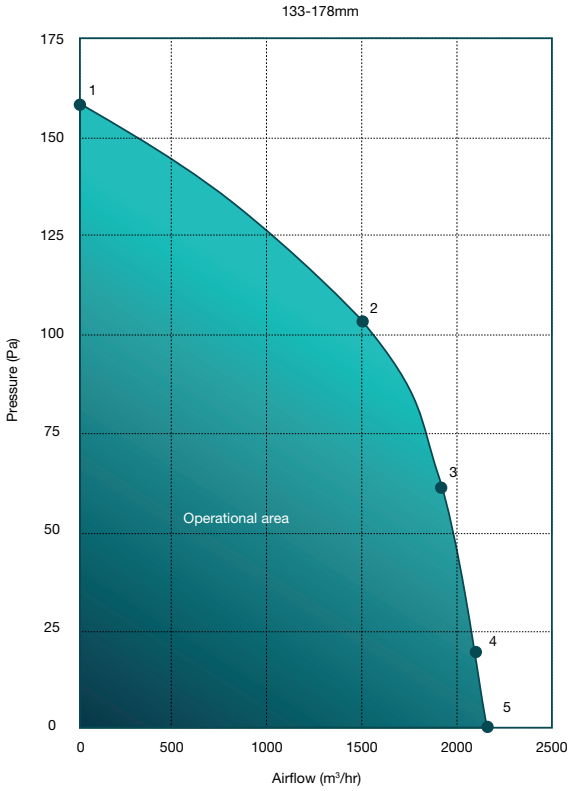
Triple - 133mm - 178mm

## Technical Data

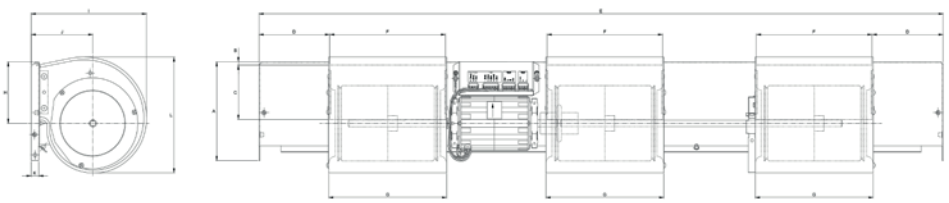
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 2304 |
| Max Current (A) | 1.9 |
| Max Input Power (W) | 255 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | 45 |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +40 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 147 | 0 | 0.44 | 1535 | 55 |
| 2 | 123 | 487 | 0.55 | 1535 | 69 |
| 3 | 111 | 1121 | 0.94 | 1535 | 122 |
| 4 | 78 | 1763 | 1.42 | 1536 | 194 |
| 5 | 0 | 2304 | 1.8 | 1412 | 244 |

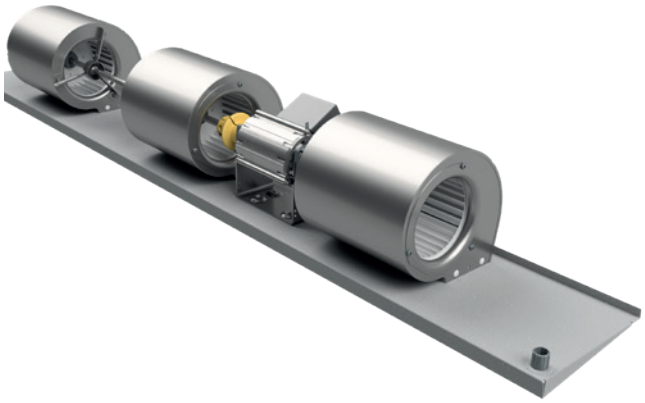



Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 210 | G | 210 |
| B | 26 | H | 129 |
| C | 96 | I | 190 |
| D | 222 | J | 95 |
| E | 1600 | K | 25 |
| F | 206 | L | 217 |



# High Efficiency Fandecks

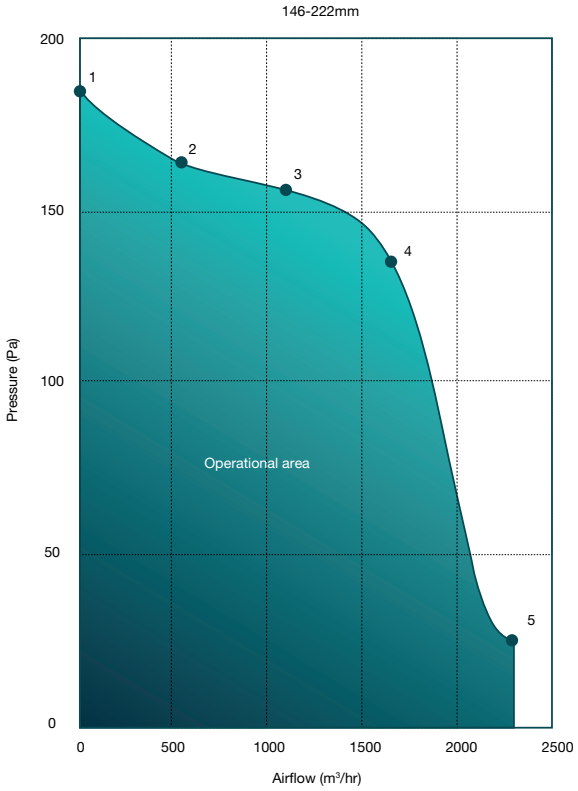
Triple - 146mm - 222mm

## Technical Data

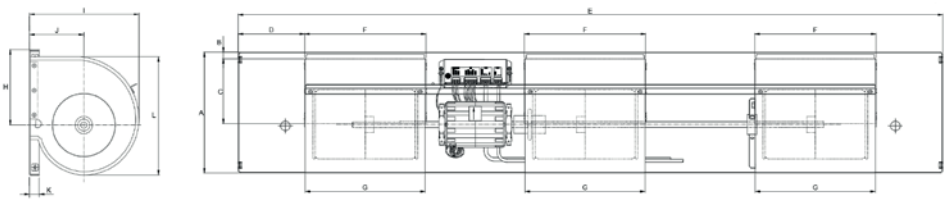
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 2280 |
| Max Current (A) | 1.9 |
| Max Input Power (W) | 256 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | 44 |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 185 | 0 | 0.73 | 1541 | 87 |
| 2 | 163 | 586 | 0.99 | 1538 | 122 |
| 3 | 156 | 1115 | 1.32 | 1540 | 170 |
| 4 | 130 | 1701 | 1.82 | 1491 | 246 |
| 5 | 25 | 2280 | 1.77 | 1201 | 229 |




Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 225 | G | 254 |
| B | 14 | H | 152.8 |
| C | 137 | I | 222.9 |
| D | 141 | J | 110.6 |
| E | 1492 | K | 20 |
| F | 256.7 | L | 239.6 |

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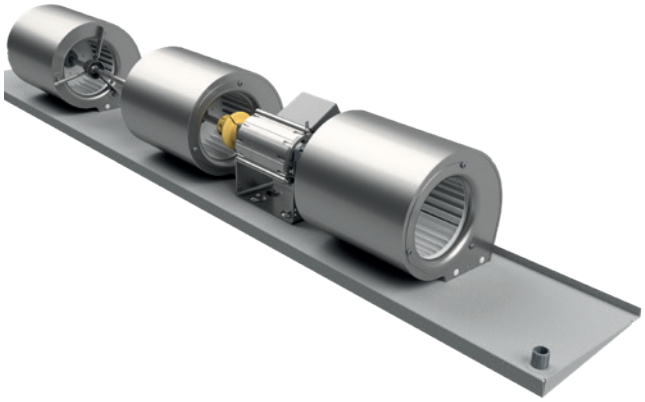
Efficiency with every rotation



# High Efficiency Fandecks

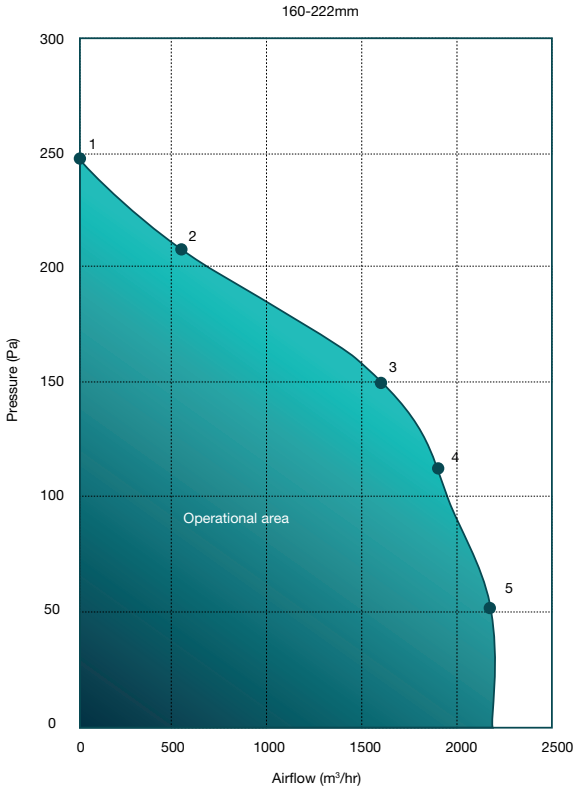
Triple - 160mm - 222mm

## Technical Data

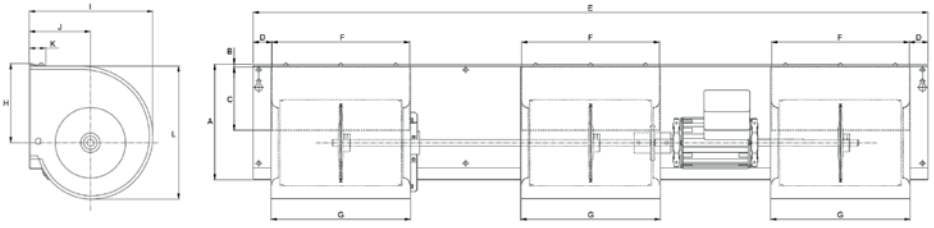
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 2198 |
| Max Current (A) | 1.83 |
| Max Input Power (W) | 254 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | 45 |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 248 | 0 | 0.73 | 1560 | 101 |
| 2 | 207 | 550 | 0.91 | 1559 | 124 |
| 3 | 145 | 1693 | 1.83 | 1475 | 254 |
| 4 | 104 | 1919 | 1.78 | 1342 | 251 |
| 5 | 44 | 2198 | 1.74 | 1217 | 245 |

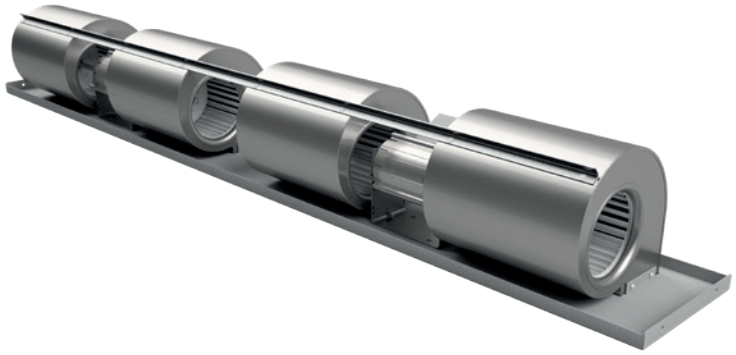



Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 210 | G | 254 |
| B | 5 | H | 142.8 |
| C | 115 | I | 223.5 |
| D | 34.1 | J | 110.6 |
| E | 1229 | K | 30 |
| F | 250.8 | L | 240.2 |



# High Efficiency Fandecks

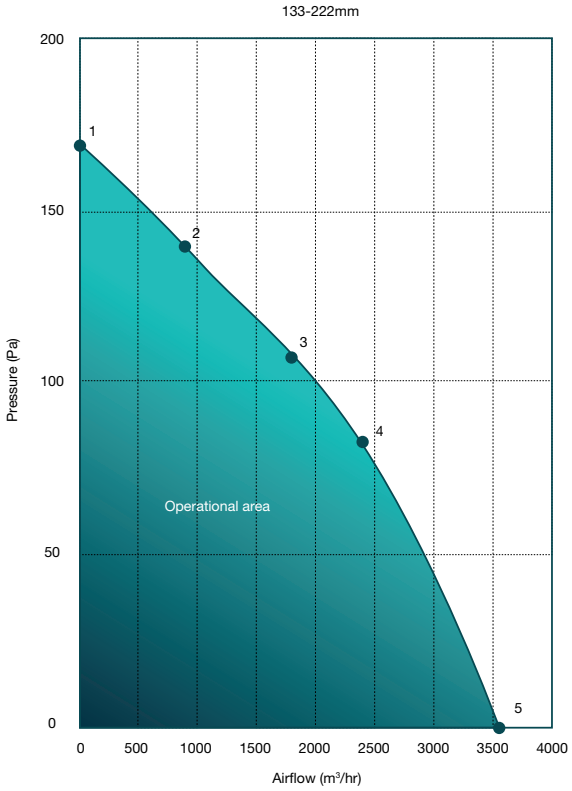
Quad - 133mm - 222mm

## Technical Data

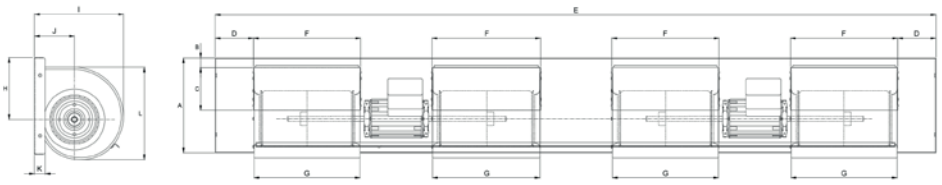
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 3582 |
| Max Current (A) | 1.54 |
| Max Input Power (W) | 214 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | NA |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 176 | 0 | 0.75 | 1555 | 104 |
| 2 | 142 | 621 | 0.87 | 1552 | 121 |
| 3 | 106 | 1998 | 1.67 | 1552 | 203 |
| 4 | 52 | 2896 | 2.32 | 1554 | 323 |
| 5 | 0 | 3671 | 3.08 | 1552 | 428 |




Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 226.5 | G | 254.0 |
| B | 23 | H | 145.1 |
| C | 102 | I | 209.1 |
| D | 91.3 | J | 93.8 |
| E | 1720 | K | 25 |
| F | 256.5 | L | 216.5 |

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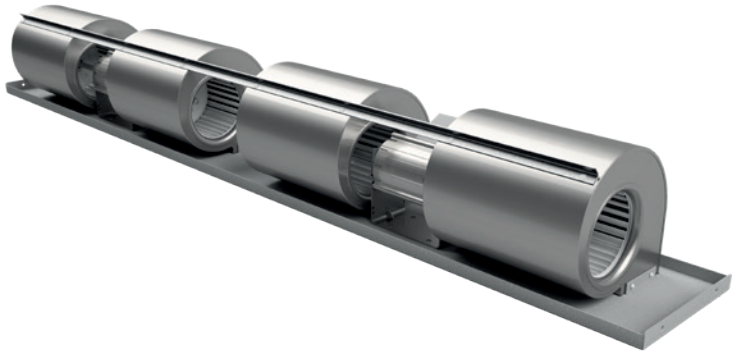
Efficiency with every rotation



# High Efficiency Fandecks

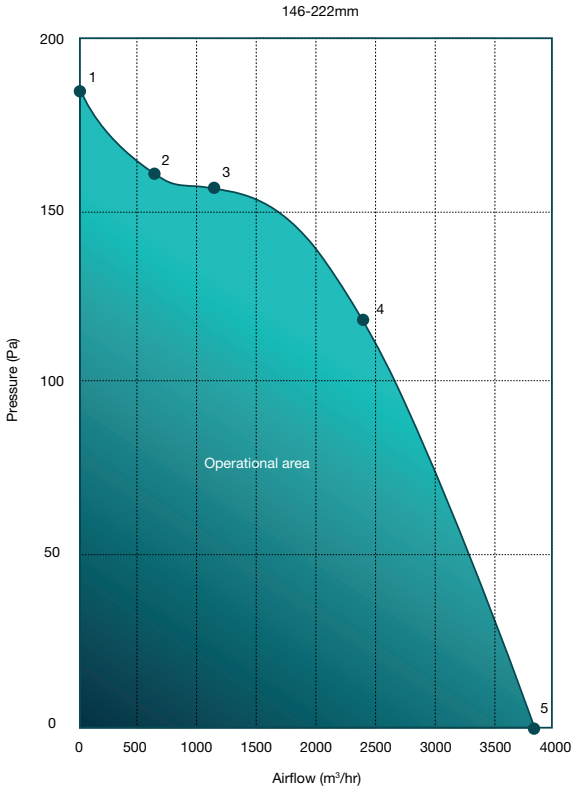
Quad - 146mm - 222mm

## Technical Data

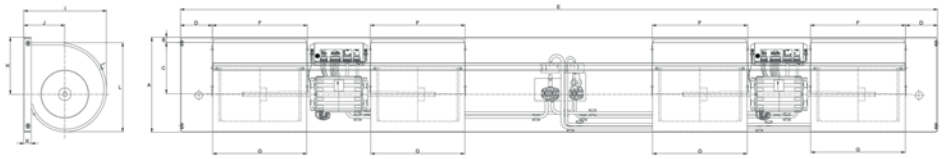
| | |
|---|---|
| Supply Voltage (V/Ph/Hz) | 230 /1/50 |
| Max Airflow (m³/h) | 3870 |
| Max Current (A) | 3.4 |
| Max Input Power (W) | 473 |
| Max Speed (rpm) | 1550 |
| ErP Efficiency Rating (FMEG) | 44 |
| IP Rating | 20 |
| Motor Insulation Class | F |
| Temperature Range (°C) | -20 to +50 |

## Performance Data

| Data Point | Static Pressure (Pa) | Airflow (m³/h) | Current (A) | Speed (rpm) | Power (W) |
|---|---|---|---|---|---|
| 1 | 185 | 0 | 1.01 | 1532 | 120 |
| 2 | 161 | 644 | 1.19 | 1533 | 144 |
| 3 | 157 | 1139 | 1.49 | 1534 | 184 |
| 4 | 120 | 2406 | 2.62 | 1533 | 347 |
| 5 | 0 | 3870 | 3.43 | 1366 | 473 |




Tested in accordance with ISO 5801. Installation method - type A.



## Dimensions (mm)

| | | | |
|---|---|---|---|
| A | 255 | G | 254 |
| B | 14 | H | 152.8 |
| C | 137 | I | 222.9 |
| D | 86.2 | J | 110.6 |
| E | 2042 | K | 20 |
| F | 256.6 | L | 239.6 |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Efficiency with every rotation

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