

Movement by Perfection



MAXvent owlet

Medium pressure axial fans North America
2019 edition

The Royal League in ventilation, control and drive technology



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General notes

Wir entwickeln und produzieren die
effizientesten Ventilatoren für die Zukunft

ZIEHL-ABEGG

Die Königsklasse

*der Lufttechnik,
Regeltechnik und Antriebstechnik*

Einzigartige
Kunststoffproduktion
für bionische Hightech-
Ventilatoren





Welcome to the world of ZIEHL-ABEGG

Top technology “Made by ZIEHL-ABEGG”

A pioneering spirit and the courage of innovation were the driving forces behind Emil Ziehl's development of his first external rotor motor over a hundred years ago. With this he laid the corner stone for the success story of ZIEHL-ABEGG in 1910. Today, the family company ZIEHL-ABEGG, with its headquarters in Künzelsau, develops, produces and sells high quality, high-tech components: Fans, special electric motors and their perfectly adapted, state-of-the-art control technology. Still today, Emil Ziehl's pioneering spirit is the motivator for making good even better and finding new, revolutionary solutions. ZIEHL-ABEGG is based in Southern Germany but is at home all over the world. At the world-wide production and sales sites, thousands of employees develop, produce and sell technical, economical and ecological progress.

Welcome to the world of ventilation, control and drive technology.

Your contact into the world of ZIEHL-ABEGG

Would you like to learn more about the company ZIEHL-ABEGG, its products and applications? Your current direct contact partners can always be found at www.ziehl-abegg.com

One-stop expertise

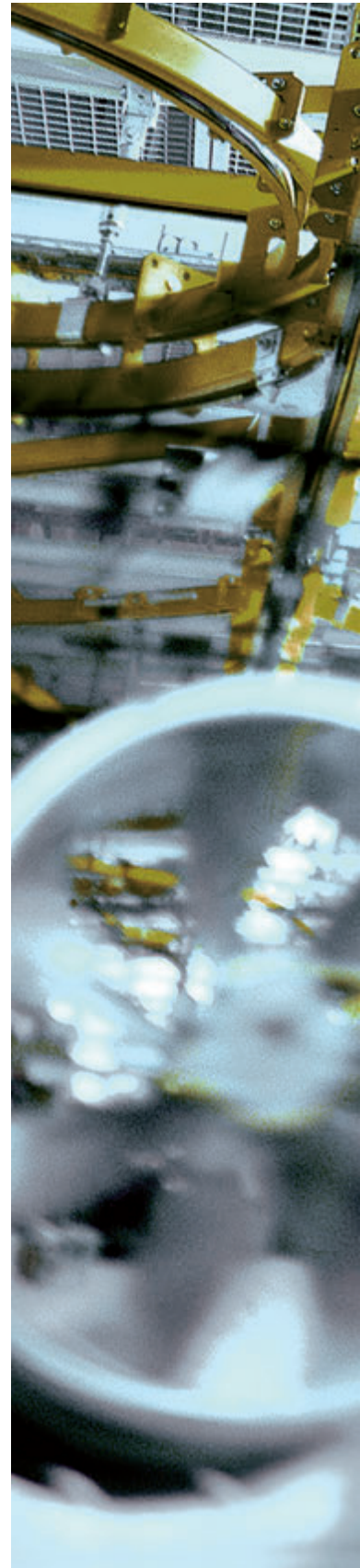
Fan, motor and control technology

Whether air conditioning, drying, cooling or ventilating, the efficient fans with adapted drive and control technology from ZIEHL-ABEGG cope with these tasks safely and reliably. Individual and also complex customer requirements are welcome challenges.

At ZIEHL-ABEGG headquarters in Künzelsau, more than 300 engineers and technicians concentrate daily on finding the best solution. In the InVent, one of the most modern technology centres of its kind, they work on the innovations of the future. Their ideas are put into practice by excellently trained specialists on state-of-the-art plants. The production as well as all processes are accompanied by prudent quality management. ZIEHL-ABEGG products are subjected to rigorous testing before being put into operation at the customer's. On the world's biggest air and noise test bench, vibrations and external noises are eliminated and thus ensure top class fan measurements in accordance with ISO and DIN. The result is top class products and services which are marked by the seals "Premium Quality" and "Premium Efficiency".

The world's biggest and most modern test bench for fans at the headquarters in Künzelsau

State-of-the-art production lines to meet the highest demands





Information

MAXventowlet

System
components

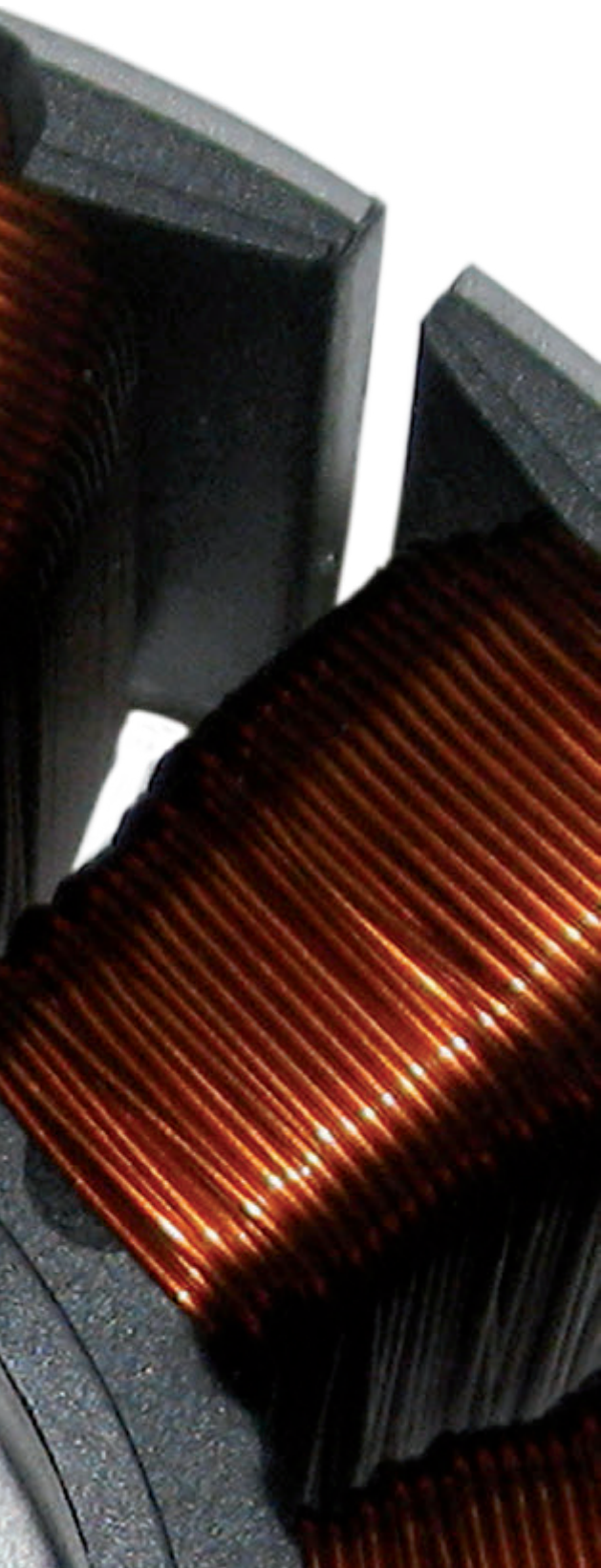
Control
technology

General notes

The Royal League of EC fans

Quiet, efficient, environmentally friendly

EC fans from ZIEHL-ABEGG unite state-of-the-art motor technology with innovative aerodynamics. This symbiosis scores high marks by merging revolutionary ECblue technology with premium fans. The result is efficiency and absolutely economical operation. The new generation of axial fans heads the ECblue technology: The FE2owlet has bionically designed rotor blades for almost noiseless conveyance of air. Moreover, the FE2owletbio is made from 100% recyclable bio-polyamides. Further highlights of material development at ZIEHL-ABEGG are shown in the Cpro centrifugal fan with the new ZAmid® technology. The new high performance composite material is as hard as steel but only half the weight. This is kind on the bearings and saves energy. Greater efficiency also comes from the newly developed blade geometry in the centrifugal impellers which has only become possible thanks to the innovative composite material. In standard application, EC-fans achieve maximum air flows with extraordinary efficiency despite their low noise. Together with the ECblue motors, ZIEHL-ABEGG fans achieve a dynamic response which makes them absolute leaders in environmental friendliness and efficiency.



ECblue – highest efficiency





Maximum efficiency and minimum consumption
ECblue with the latest **ZAmid**® Technology
Radial fans sector



Unique bionic profile FE2owlet,
combined with ECblue technology



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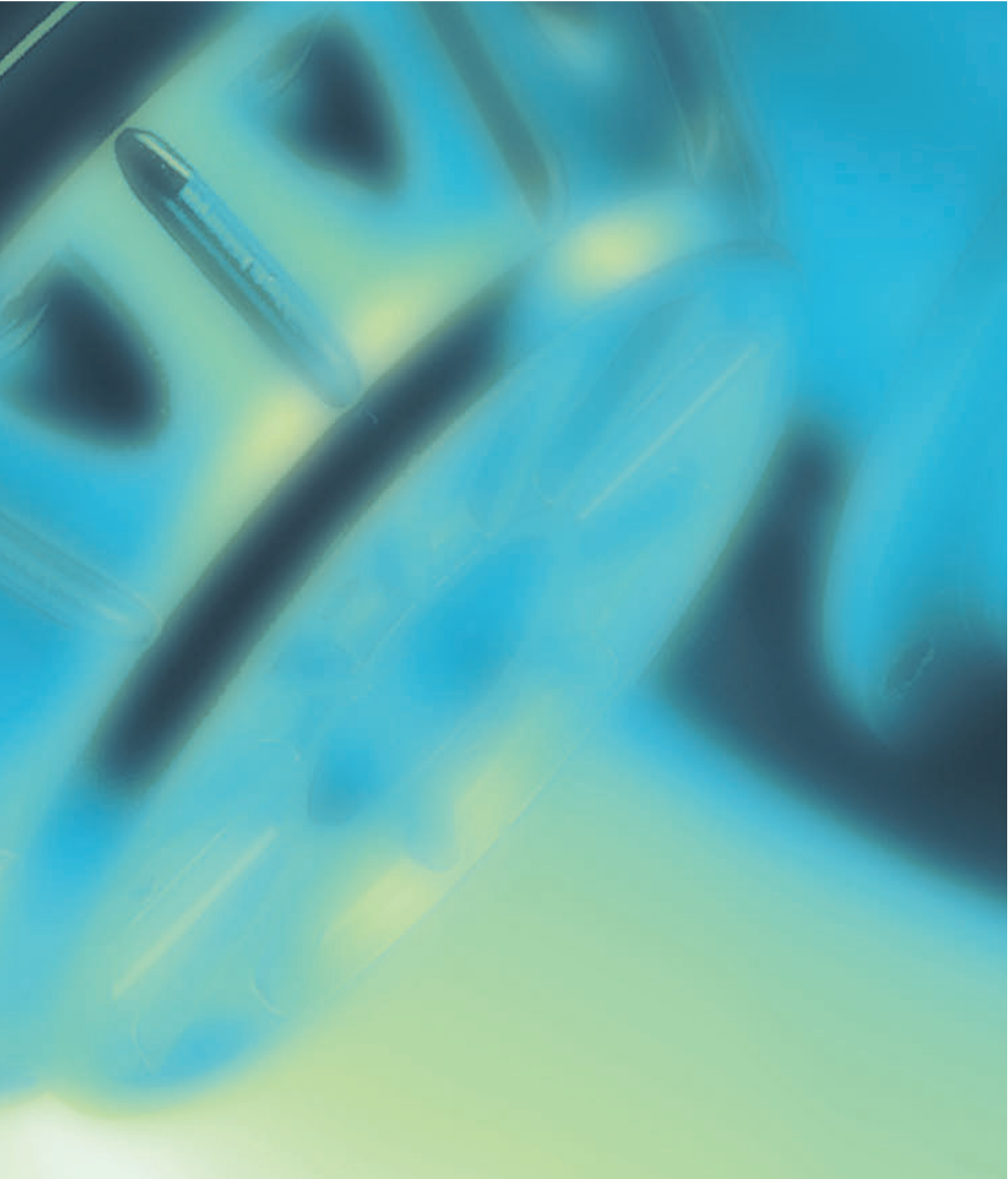
The Royal League of AC fans

So powerful, so insusceptible, so AC technology

In the AC motor technology sector, our development efforts are completely dedicated to the future. We now supply our modern fans combined with AC technology wherever unusual temperature ranges and materials are needed for demanding applications. The simple and yet sturdily constructed, high-quality motor technology remains consistent even during exceptional demands. AC fans are used in many industrial sectors and in agriculture whenever absolute insensitivity and stability are the top priority. Intelligently used components such as the ZIEHL-ABEGG Fcontrol frequency inverters turn the combination of fans and AC motors into a modern, ecologically sound and efficient top-class performer. Our modern AC motors are maintenance-free and promise a secure investment in the future.

AC motor technology, robust in operation





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General notes

Expertise in ventilation

What is UL?

UL (Underwriters Laboratories) is a globally independent safety and science company headquartered in the USA.

The organization's target is to guard people, products, and places against dangerous products and systems. To ensure this, UL checks products according to standards that have been developed in large part by itself.

UL is one of several companies approved by NRTL (Nationally Recognized Testing Laboratory) and by the US federal agency OSHA (Occupational Safety & Health Administration). Thereby UL has the permission to perform all required safety testing.



How can you recognize UL certified products?

UL certified products can be recognized by UL Marks. There are different types of marks; the most common are the following marks:

UL Listing Mark

Products bearing the UL Listing Mark are usually complete appliances or equipment and materials.

These products have been investigated using applicable construction and performance requirements. Therefore when the device is installed according to the manufacturer's installation instructions, it should provide a safe and code-compliant installation.

The optional C-UL-US Mark indicates compliance with both Canadian and U.S. requirements.



UL Recognized Component Mark

UL Recognized Components have been evaluated by UL for factory installation within equipment where the component's limitations of use are known and investigated by UL.

The optional C-UL-US Mark indicates compliance with both Canadian and U.S. requirements.

Finally, UL Recognized Components have acceptable conditions that describe how components can be used within end products.



What is a UL or CSA File?

A UL or CSA File is a manufacturer-specific document, which contains important information about the certified product. It includes information about the product, the marking, the adherence standards, the manufacturer, the place of manufacture and sometimes the conditions of acceptability.

What is CSA?

The Canadian Standards Association is a non-profit associations serving business, industry, government and consumers in Canada and the global marketplace.

Among many others activities, CSA develops standards that enhance public safety.

CSA International is accredited in Canada by the Standards Council of Canada (SCC) and is recognized by the Occupational Safety and Health Administration (OSHA) as a Nationally Recognized Testing Laboratory (NRTL).

CSA has been tested and meets applicable standards for safety and performance, including the applicable standards written or administered by the American National Standards Institute (ANSI), UL, CSA, NSF International, and others.

All our CSA motors are certified for the USA and Canadian markets.



How can you recognize CSA certified products?

A CSA mark with the indicators “C” and “US” means that the product is certified for both the U.S. and Canadian markets, to the applicable U.S. and Canadian standards.

Applications

Refrigeration

Coolers, Condensers, Chillers
Blast and spiral freezers
Radiators and oil coolers



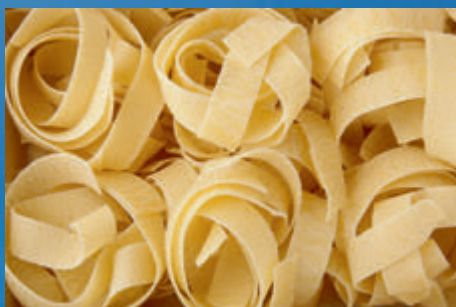
Industry

Engine and turbine ventilation
Containers and chambers ventilation
Dry coolers
Transformers and machine cooling
Hydro power
Wood dryers, paper, textiles,
Chemical and metallurgic production
Explosion Proof and offshore



Food Processing, Agriculture

Crop drying
Preservation of vegetables and fruits
Pasta and tobacco drying
Meat chilling



Technical description

MAXventowlet

Description

13 fan diameters ranging from 12 to 55 inches
Motors are available in 2, 4, 6, or 8 pole configurations
Factory adjustable blade pitch angle to meet the exact duty point requirements
Short and long casing available
Asynchronous internal rotor motors (Pad-mounted, TEFC, class F, energy efficiency class NEMA Premium)
Direct coupling of the impeller on the shaft
Profiled blades made from high performance corrosion-free composite material

Applications

Condensers, cooling towers, evaporators, dry coolers, blast freezers, agriculture, food processing, drying technologies, cooling of motors and turbines, cooling of transformers and machinery, water treatment, chemical and metallurgic production Explosion Proof.

Advantages

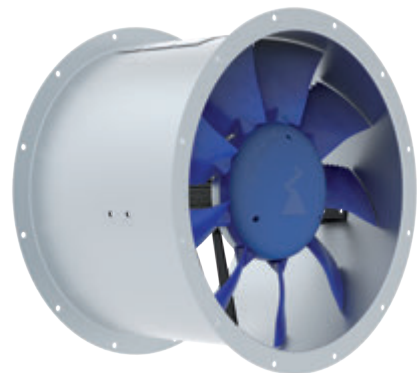
The MAXventowlet fans features ultra-low noise emissions, high efficiency and more pressure for the same diameter.

Configurations

Stainless steel 304 or 316L or polyester powder paint finish
Motor: 60 Hz, high or low temperatures, remote terminal box
Explosion Proof and offshore protection

System components

Speed controllers, mounting feet, anti-vibration mounts, matching flanges, inlet nozzle, flexible connector, protective grilles (impeller or motor side).



Diameters versus motor poles

Size	2 pole	4 pole	6 pole	8 pole
DN31	x	x		
DN35	x	x		
DN40	x	x		
DN45	x	x		
DN50	x	x		
DN56	x	x		
DN63	x	x		
DN71	x	x	x	
DN80	x	x	x	
DN90		x	x	
DN10		x	x	x
DN12		x	x	x
DN14			x	x

Type key

Example

Type: DN31V-2DF.A7.11.G3
Article no.: please contact us

Example

DN 31 V - 2 D F . A7 . 11 . G 3

Axial fan

	FT
	FV
Medium pressure axial fans with adjustable blades MAXventowlet	DN

Size

Impeller diameter 12" / 315 mm	31
Impeller diameter 14" / 355 mm	35
Impeller diameter 16" / 400 mm	40
...	...
Impeller diameter 55" / 1400 mm	14

Air flow direction

Sucking over motor	A
Blowing over motor	V

Number of poles

2 pole	2
4 pole	4
6 pole	6
8 pole	8

Type of current

Three phase alternating current	D
Single phase alternating current	E
Explosion Proof Division 1	Y
Explosion Proof Division 2	Z

Design

Long casing	F
Short casing	K
Short casing with inlet nozzle	S

Motor

Motor design

Flange motor IM B5	5
Foot motor IM B3	7
Foot motor vertical shaft up IM V5	9

Blade adjust- ment

11°	11
14°	14
19°	19
24°	24
29°	29
34°	34

Corrosion pro- tection

Galvanized	G
Hot dip galvanized	H
Stainless steel	S

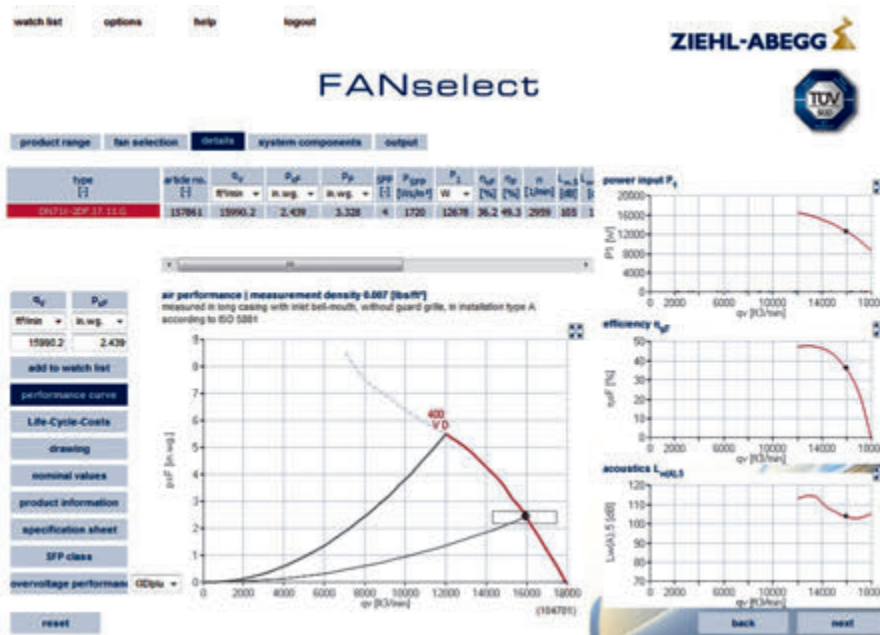
Number of blades

3
6
7
9



Selection program FANselect

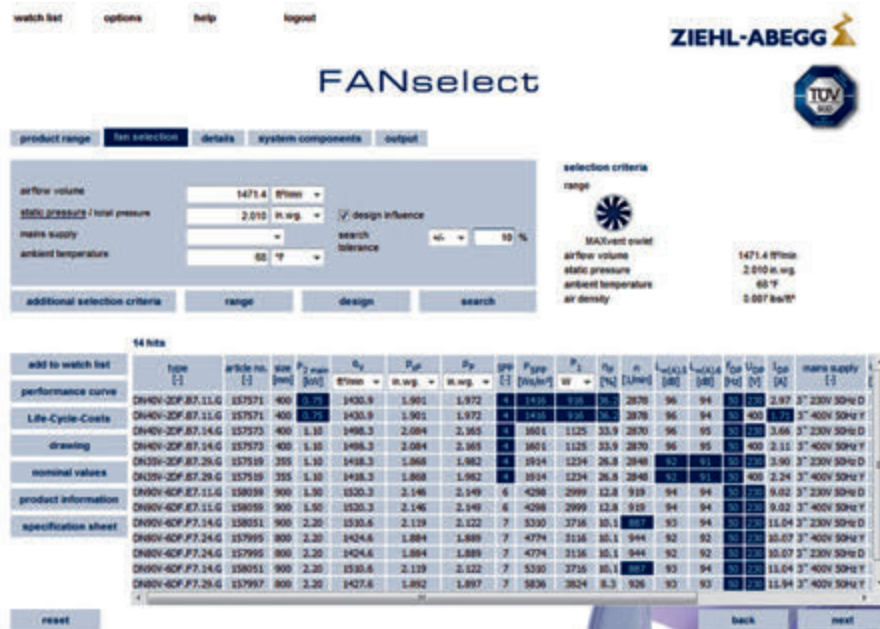
The world's best selection program for fans

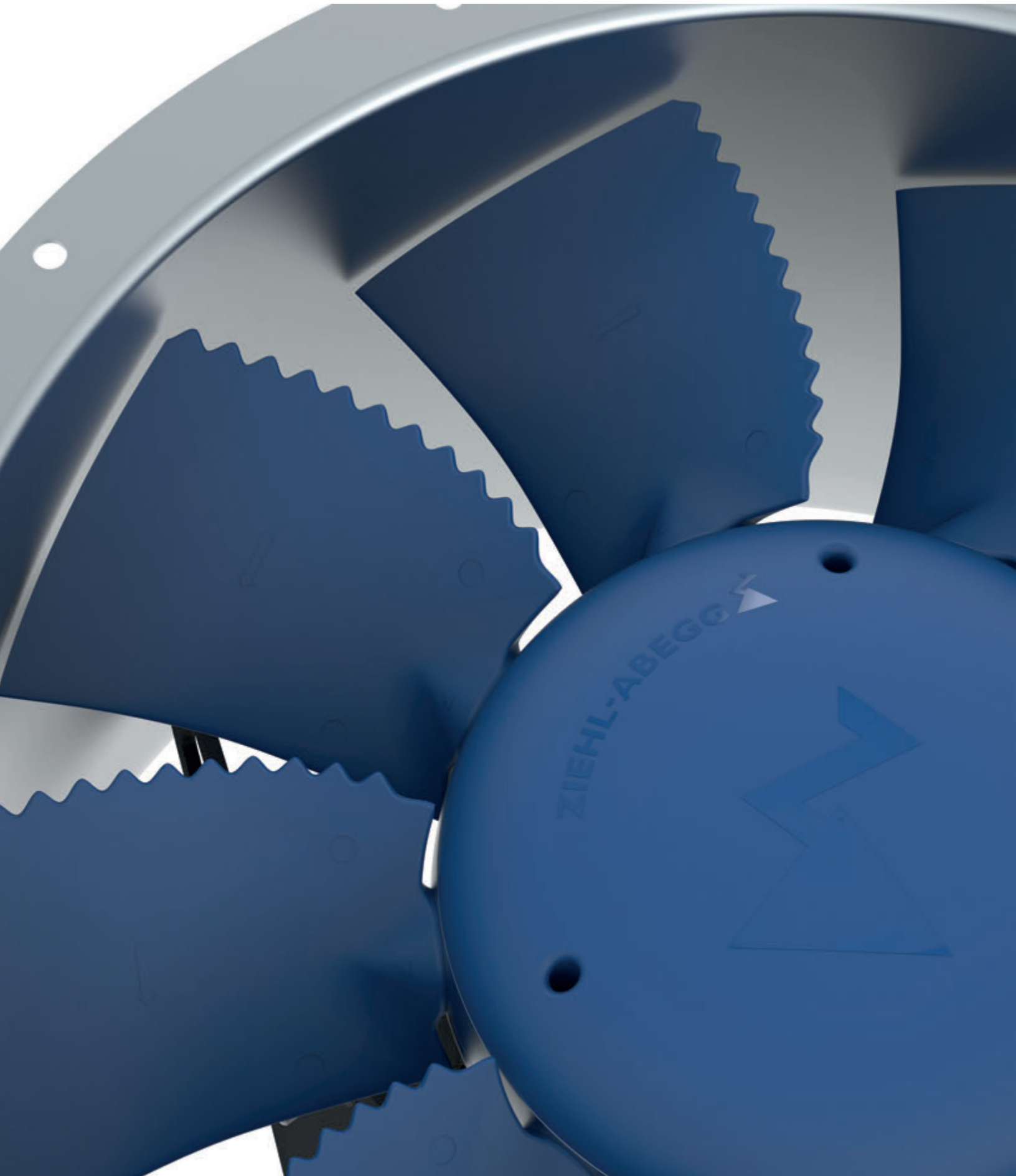


At www.fanselect.info, we are offering you FANselect, a selection program for axial and centrifugal fans with the matching system components.

With FANselect, you can, for instance, select and calculate the fans MAXventowlet listed in this catalogue. FANselect provides you with an option to calculate the efficiency, the acoustics, the SFP and much more. In addition, you can also select the matching systems components. You can conveniently save your configuration in a file or print it out.

The FANselect selection program, including the customer DLL, is available for you to download at any time at www.fanselect.info.





MAXventowlet

Product overview

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Information

MAXventowlet

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technology

General notes

MAXventowlet

for three phase alternating current, 2 pole

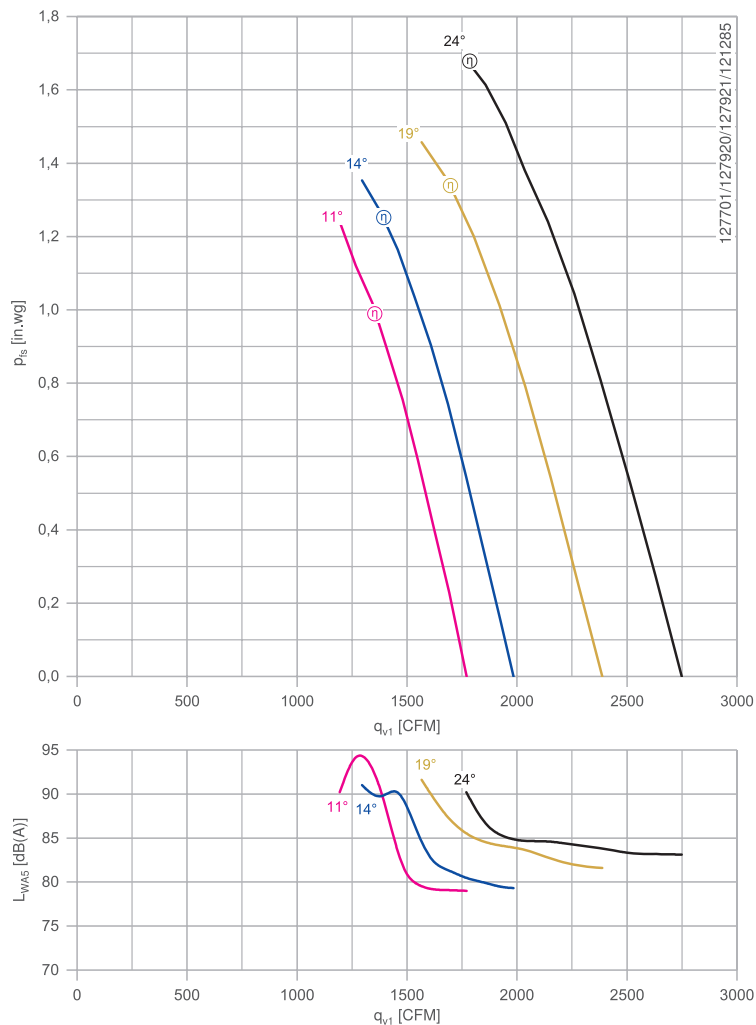
DN31V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 7
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

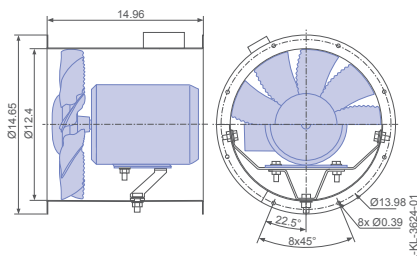
Characteristic curve



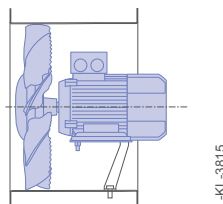
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

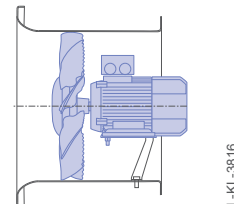
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting °	Rated power hp	Motor size	Motor technology	Design F Weight lbs	Efficiency η_{statA} %	Efficiency grade N_{actual} %
DN31V-2DF.A7.11.G7	11	0.75	48	PEM	44.1	35.2	43.4
DN31V-2DF.A7.14.G7	14	0.75	48	PEM	44.1	36.0	43.8
DN31V-2DF.B7.19.G7	19	1	56	PEM	46.3	36.8	43.9
DN31V-2DF.B7.24.G7	24	1	56	PEM	46.3	35.8	42.2



MAXventowlet

for three phase alternating current, 4 pole

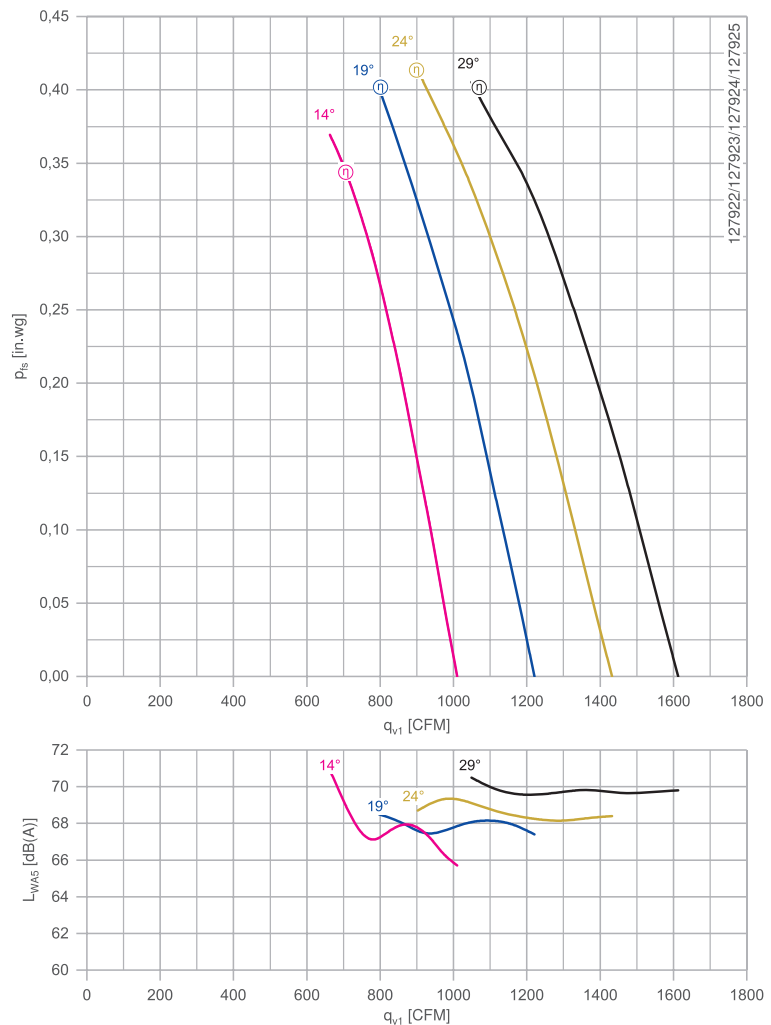
DN31V



Description

Rated voltage U_N : 3-460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 7
Degree of protection : TEFC
Blade: High Performance Composite Material, Impeller unpainted, black
Motor: Standard motor NEMA
* Rated data
Other versions on request.

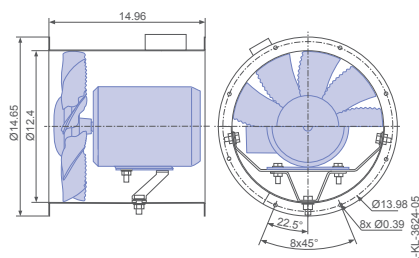
Characteristic curve



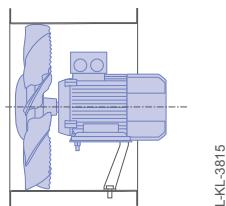
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

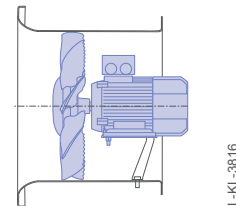
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting °	Rated power hp	Motor size	Motor technology	Design F Weight lbs	Efficiency η_{statA} %	Efficiency grade N_{actual} %
DN31V-4DF.97.14.G7	14	0.13	42	EEM	38.8	18.7	30.1
DN31V-4DF.97.19.G7	19	0.13	42	EEM	38.8	20.3	31.2
DN31V-4DF.97.24.G7	24	0.17	42	EEM	39.7	27.6	38.9
DN31V-4DF.97.29.G7	29	0.17	42	EEM	39.7	25.6	36.3

MAXventowlet

for three phase alternating current, 2 pole

DN35V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 7

Degree of protection : TEFC

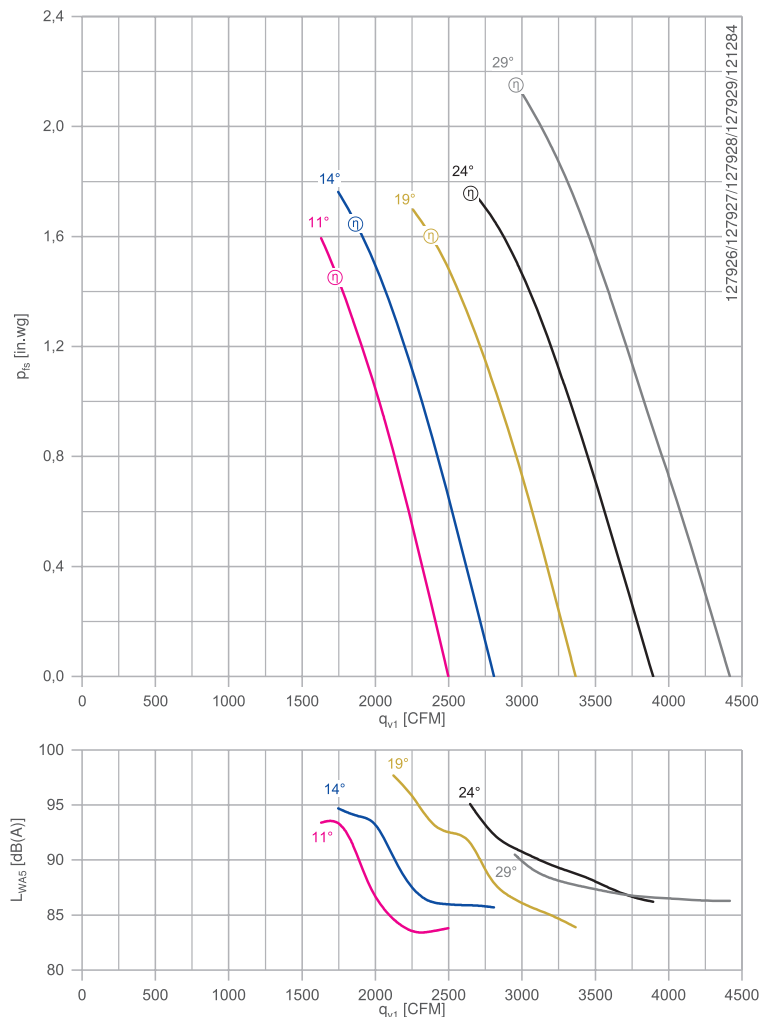
Blade: ZAmid, Impeller unpainted, Blue

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

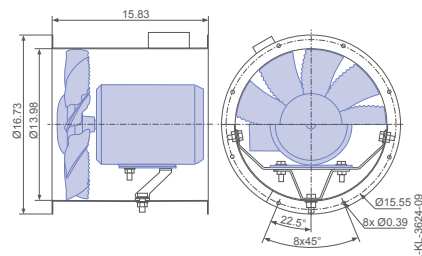


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

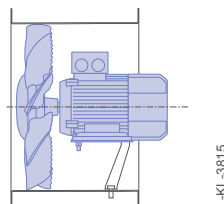
Design F

Long casing



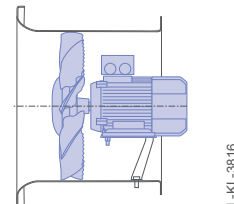
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN35V-2DF.B7.11.G7	11	1	56	PEM	50.9	44.5	51.9
DN35V-2DF.B7.14.G7	14	1	56	PEM	50.9	43.5	50.3
DN35V-2DF.B7.19.G7	19	1.5	56	PEM	62.6	43.5	49.7
DN35V-2DF.B7.24.G7	24	2	56	PEM	62.8	40.9	46.4
DN35V-2DF.B7.29.G7	29	2	56	PEM	62.8	41.6	46.1



MAXventowlet

for three phase alternating current, 4 pole

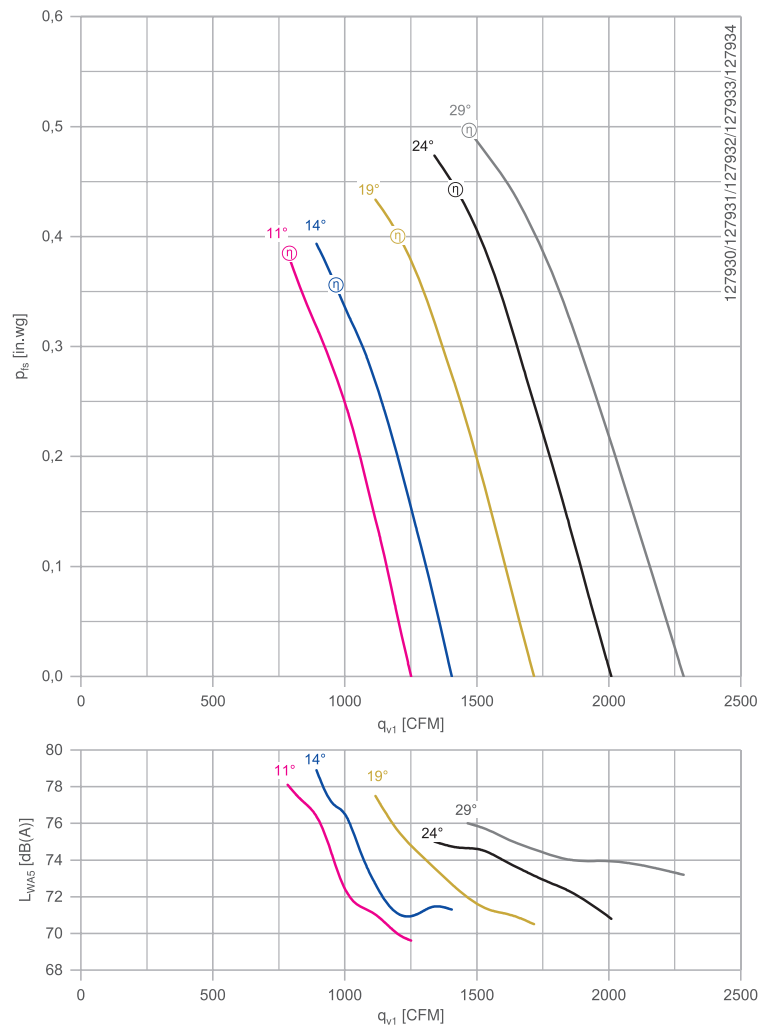
DN35V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 7
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

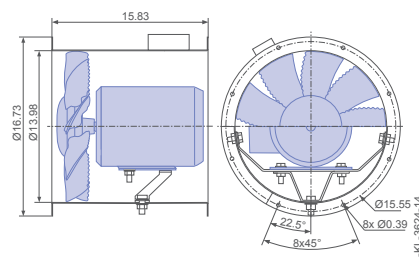
Characteristic curve



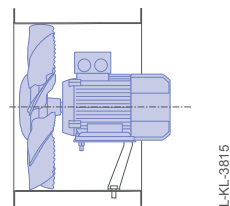
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

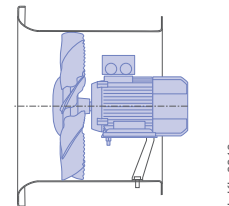
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN35V-4DF.97.11.G7	11	0.13	42	EEM	43.4	20.7	31.8
DN35V-4DF.97.14.G7	14	0.13	42	EEM	43.4	21.5	32.3
DN35V-4DF.97.19.G7	19	0.17	42	EEM	43.4	31.5	42.5
DN35V-4DF.A7.24.G7	24	0.25	48	EEM	47.0	28.3	38.2
DN35V-4DF.A7.29.G7	29	0.33	48	EEM	49.0	28.7	38.3

MAXventowlet

for three phase alternating current, 2 pole

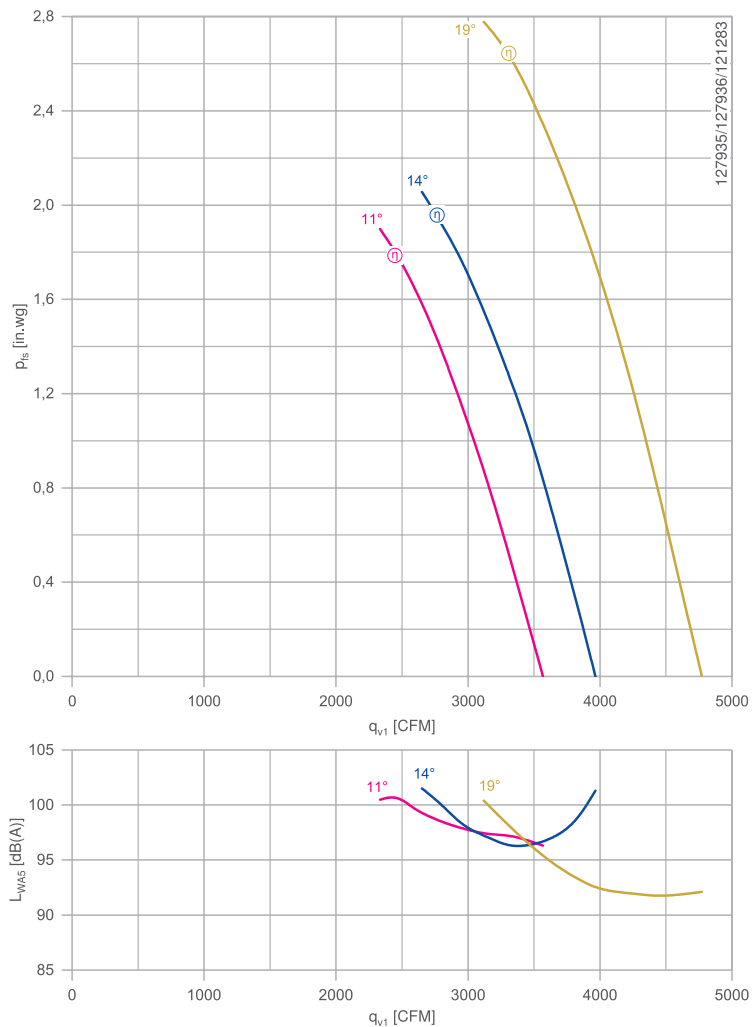
DN40V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

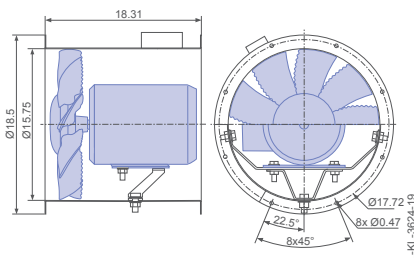
Characteristic curve



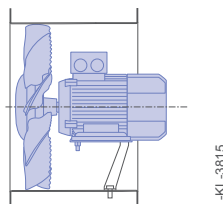
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

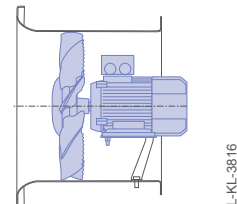
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting °	Rated power hp	Motor size	Motor technology	Design F Weight lbs	Efficiency η_{statA} %	Efficiency grade N_{actual} %
DN40V-2DF.B7.11.G9	11	2	56	PEM	73.4	44.0	49.8
DN40V-2DF.B7.14.G9	14	2	56	PEM	73.4	41.6	46.7
DN40V-2DF.D7.19.G9	19	3	145T	PEM	88.4	43.2	47.1



MAXventowlet

for three phase alternating current, 4 pole

DN40V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

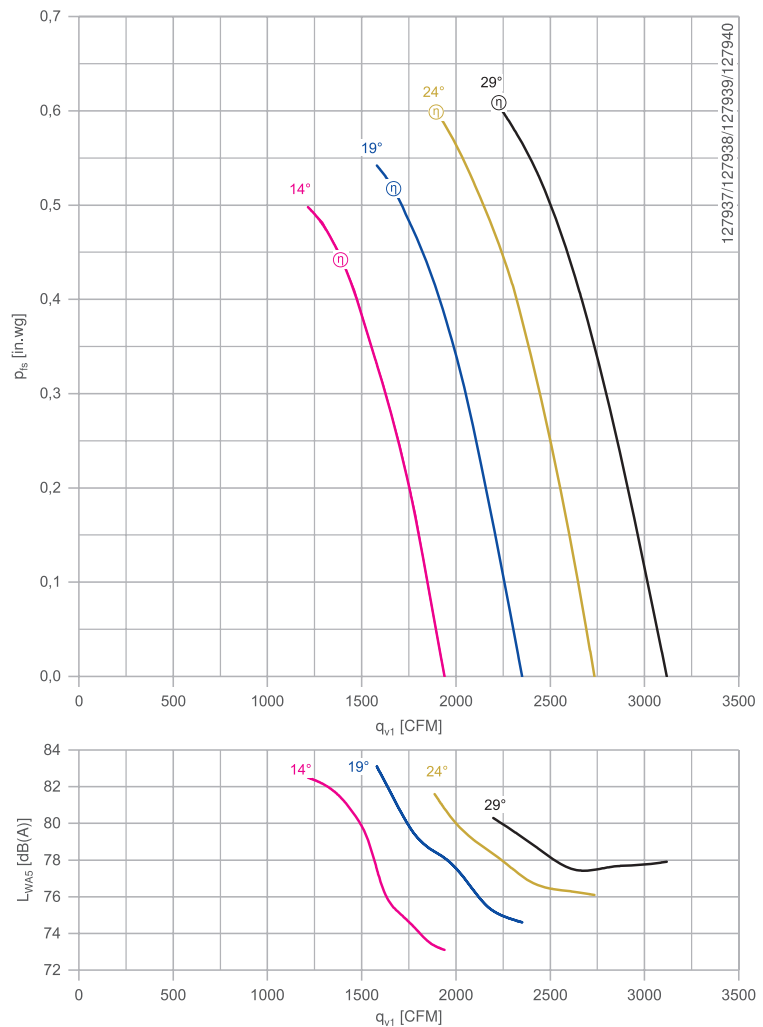
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

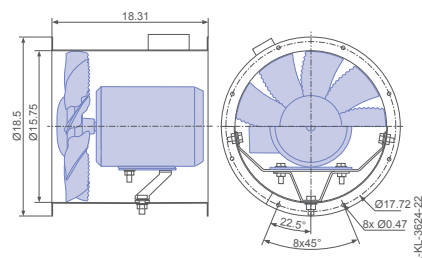


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

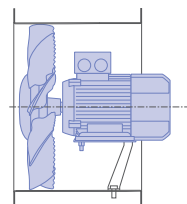
Design F

Long casing



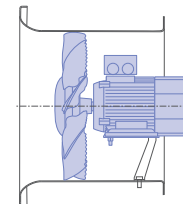
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN40V-4DF.A7.14.G9	14	0.25	48	EEM	56.0	27.7	37.6
DN40V-4DF.A7.19.G9	19	0.33	48	EEM	57.8	31.1	40.4
DN40V-4DF.B7.24.G9	24	0.5	56	PEM	57.8	36.3	45.3
DN40V-4DF.B7.29.G9	29	0.5	56	PEM	57.8	34.5	42.9

MAXventowlet

for three phase alternating current, 2 pole

DN45V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

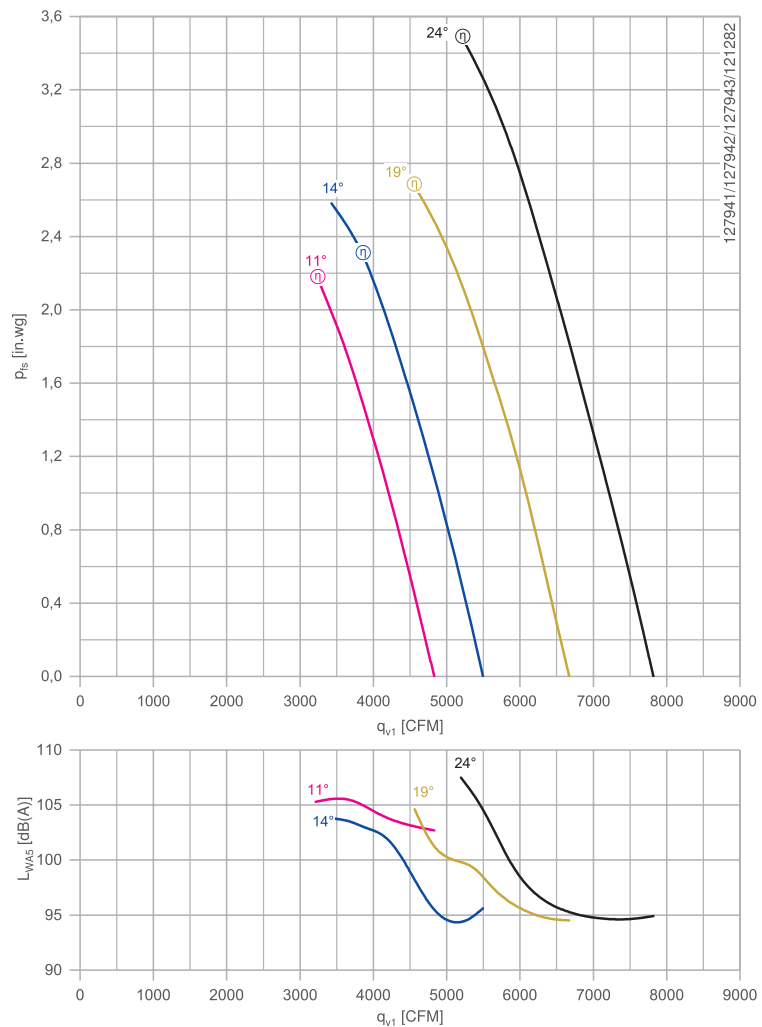
Blade: ZAmid, Impeller unpainted, Blue

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

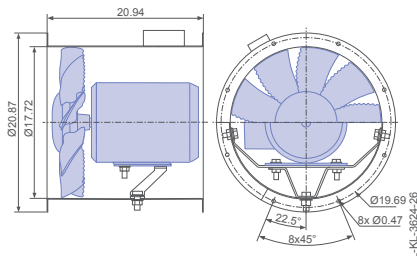


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

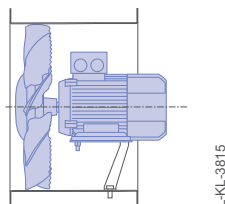
Design F

Long casing



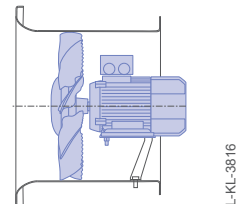
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN45V-2DF.F7.11.G9	11	5	184T	PEM	131.0	44.3	48.9
DN45V-2DF.F7.14.G9	14	5	184T	PEM	131.0	46.5	50.5
DN45V-2DF.F7.19.G9	19	5	184T	PEM	131.0	46.7	49.8
DN45V-2DF.F7.24.G9	24	7.5	184T	PEM	154.1	44.9	46.9



MAXventowlet

for three phase alternating current, 4 pole

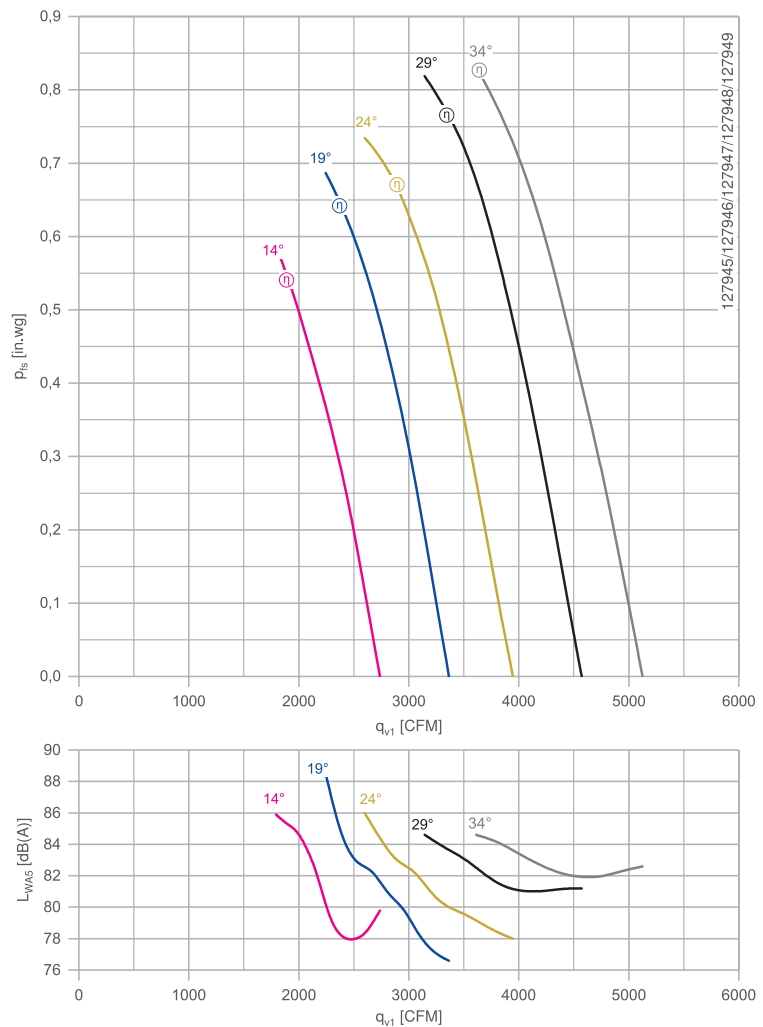
DN45V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: High Performance Composite Material, Impeller unpainted, black
Motor: Standard motor NEMA
* Rated data
Other versions on request.

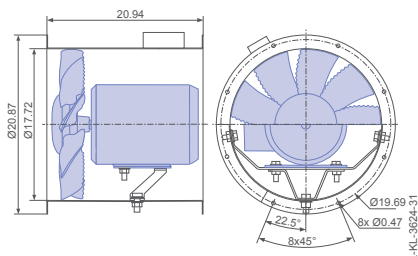
Characteristic curve



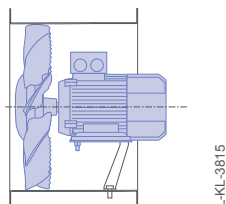
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

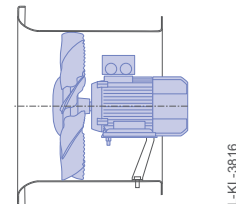
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN45V-4DF.B7.14.G9	14	0.5	56	PEM	78.9	41.9	51.5
DN45V-4DF.B7.19.G9	19	0.5	56	PEM	78.9	42.4	51.0
DN45V-4DF.B7.24.G9	24	0.75	56	EEM	76.1	38.1	45.8
DN45V-4DF.B7.29.G9	29	1	56	PEM	86.0	37.9	44.8
DN45V-4DF.D7.34.G9	34	1.5	145T	PEM	90.4	37.3	43.8

MAXventowlet

for three phase alternating current, 2 pole

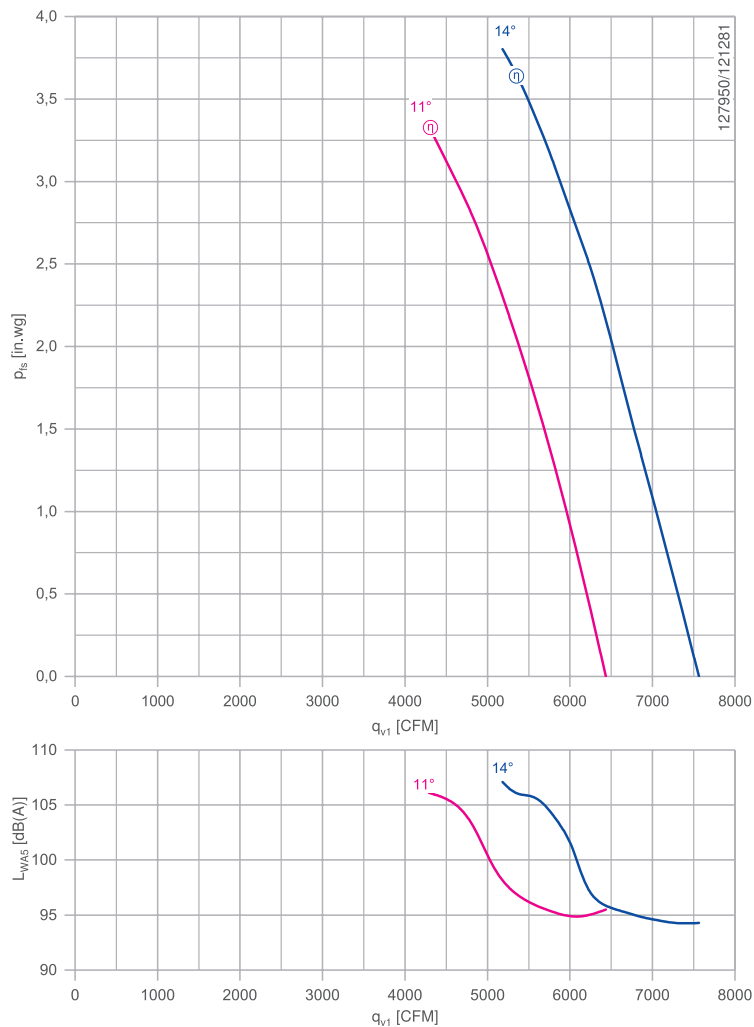
DN50V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

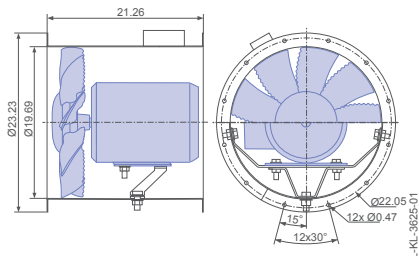
Characteristic curve



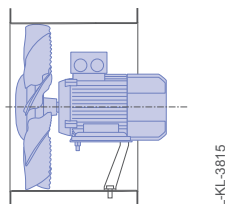
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

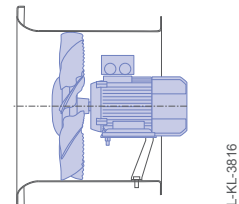
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN50V-2DF.F7.11.G9	11	7.5	184T	PEM	159.9	47.0	49.8
DN50V-2DF.F7.14.G9	14	7.5	184T	PEM	159.9	48.4	50.4



MAXventowlet

for three phase alternating current, 4 pole

DN50V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

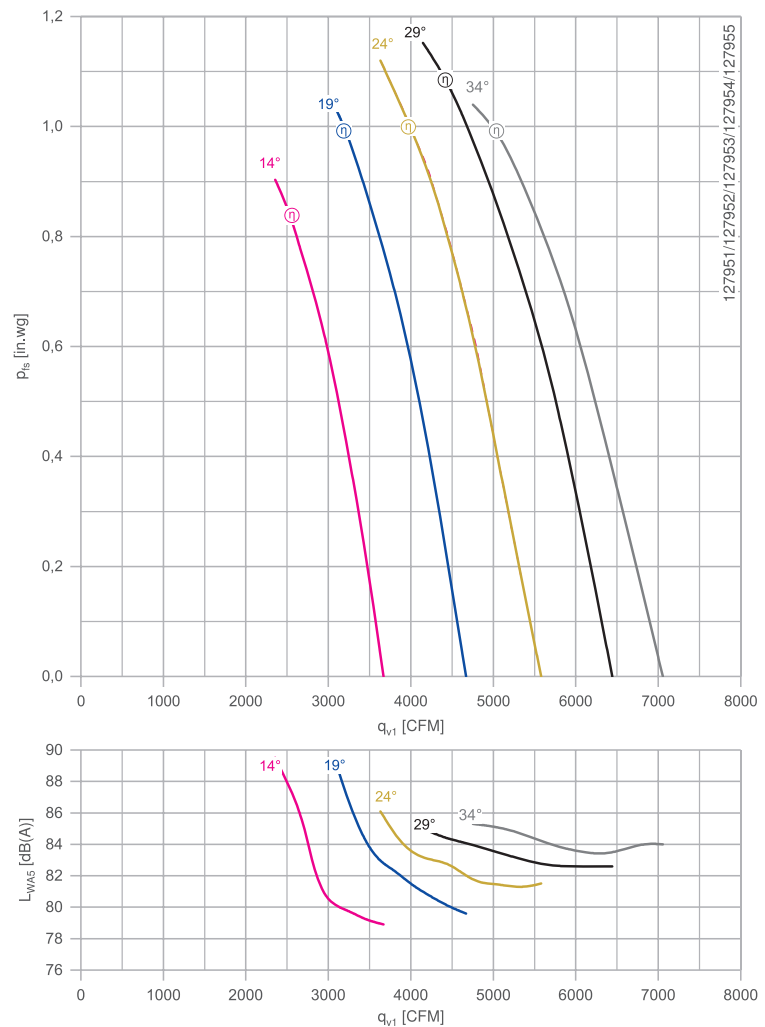
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

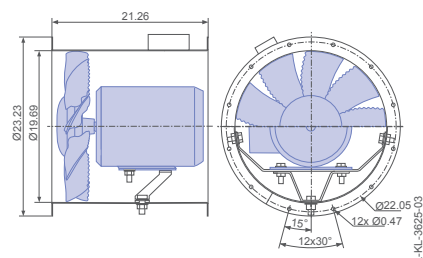


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

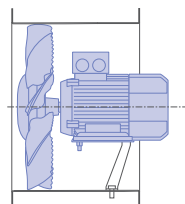
Design F

Long casing



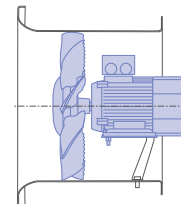
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN50V-4DF.B7.14.G9	14	0.75	56	EEM	81.4	42.1	49.8
DN50V-4DF.B7.19.G9	19	1	56	PEM	91.1	40.3	46.8
DN50V-4DF.D7.24.G9	24	1.5	145T	PEM	97.9	43.6	49.7
DN50V-4DF.D7.29.G9	29	1.5	145T	PEM	97.9	41.6	47.0
DN50V-4DF.D7.34.G9	34	2	145T	PEM	101.9	36.1	41.0

MAXventowlet

for three phase alternating current, 2 pole

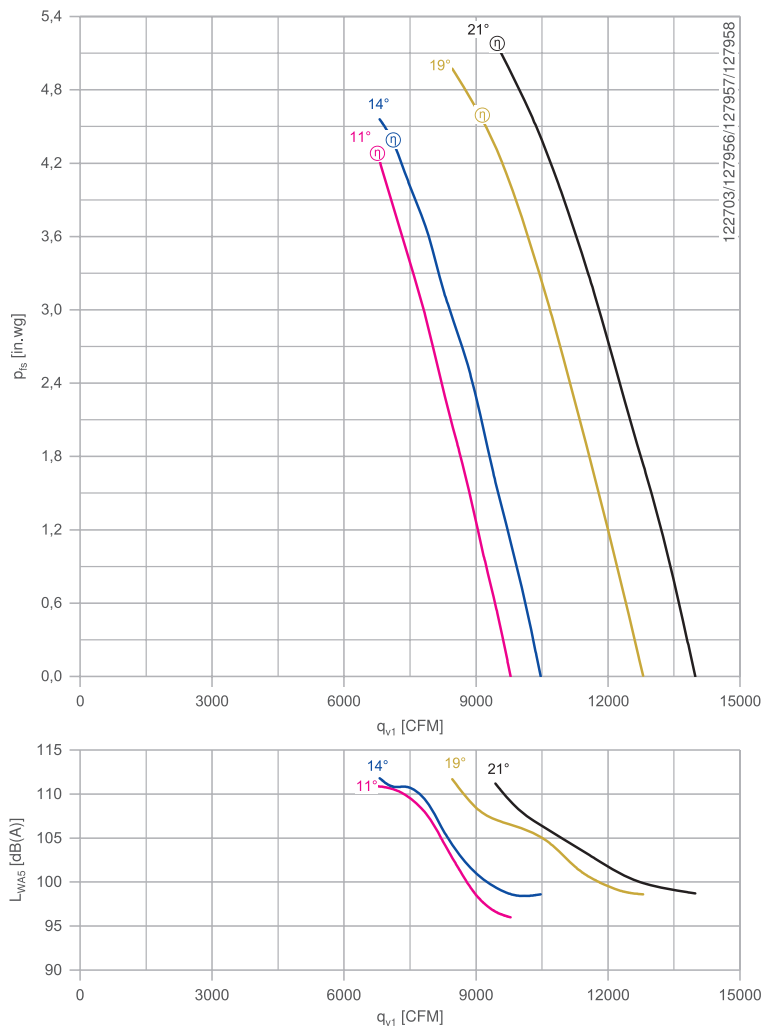
DN56V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

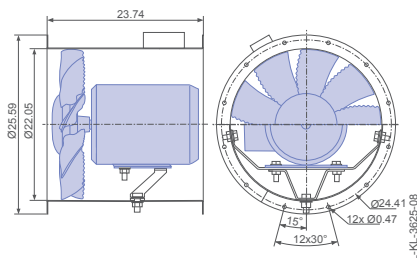
Characteristic curve



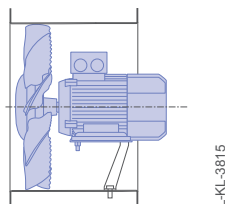
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

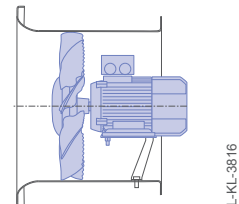
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting °	Rated power hp	Motor size	Motor technology	Design F Weight lbs	Efficiency η_{statA} %	Efficiency grade N_{actual} %
DN56V-2DF.H7.11.G9	11	10	215T	PEM	196.7	50.8	51.9
DN56V-2DF.H7.14.G9	14	15	215T	PEM	248.7	51.5	52.4
DN56V-2DF.H7.19.G9	19	15	215T	PEM	248.7	47.2	47.2
DN56V-2DF.H7.21.G9	21	15	215T	PEM	248.7	47.0	46.9



MAXventowlet

for three phase alternating current, 4 pole

DN56V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

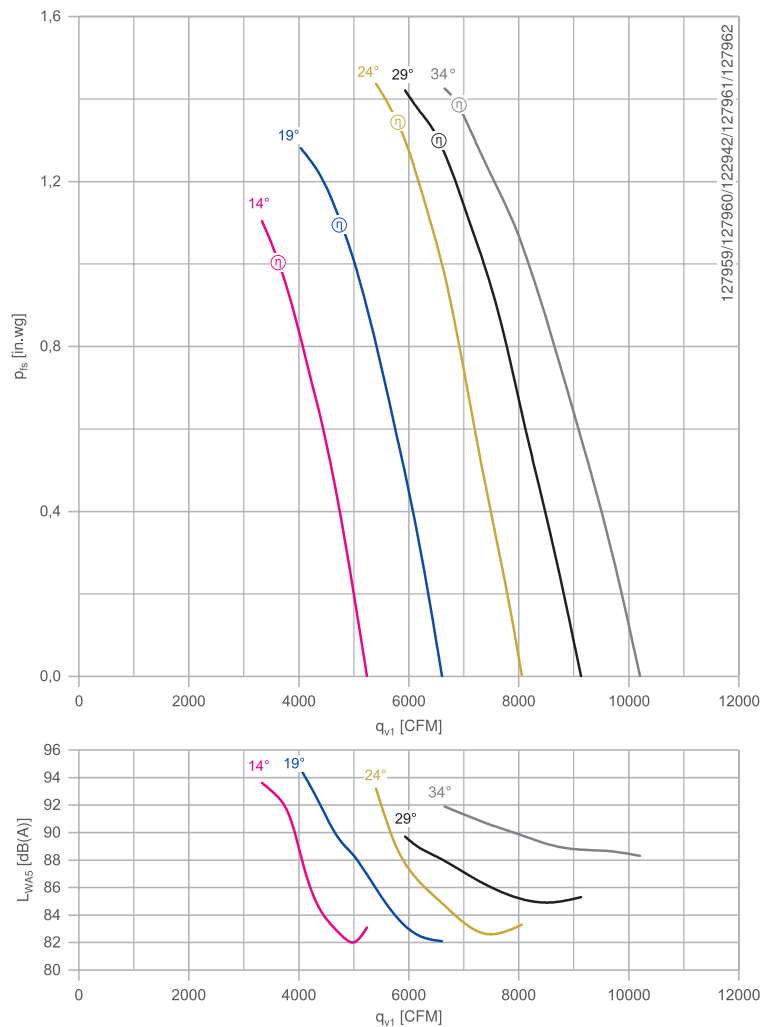
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

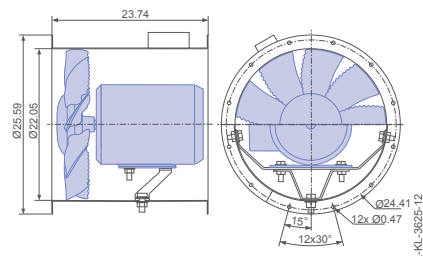


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

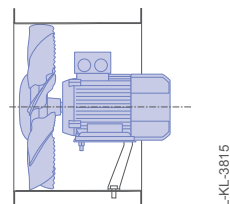
Design F

Long casing



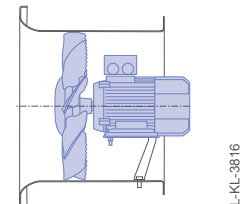
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN56V-4DF.D7.14.G9	14	1.5	145T	PEM	112.0	45.4	51.8
DN56V-4DF.D7.19.G9	19	1.5	145T	PEM	112.0	48.7	54.4
DN56V-4DF.E7.24.G9	24	3	182T	PEM	145.1	48.8	53.3
DN56V-4DF.E7.29.G9	29	3	182T	PEM	145.1	44.4	48.4
DN56V-4DF.F7.34.G9	34	5	184T	PEM	145.1	41.4	44.9

MAXventowlet

for three phase alternating current, 2 pole

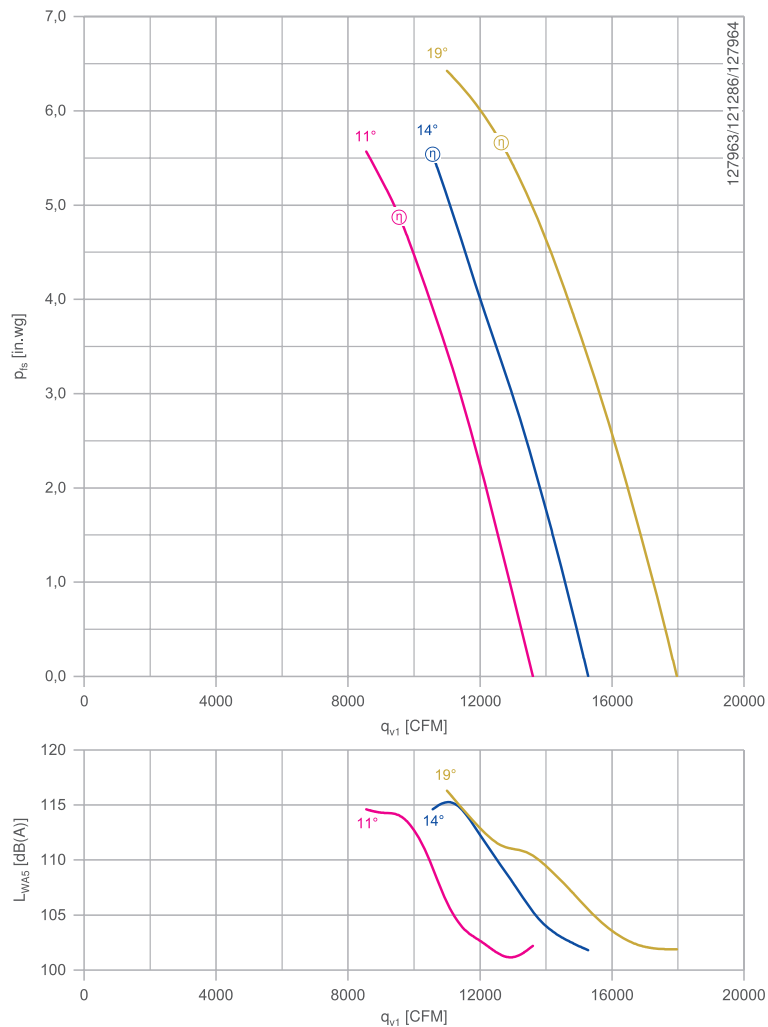
DN63V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

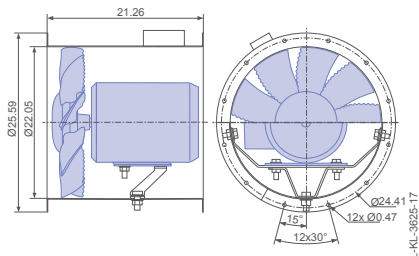
Characteristic curve



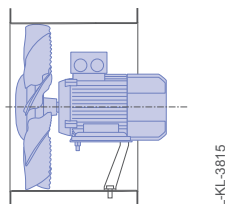
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

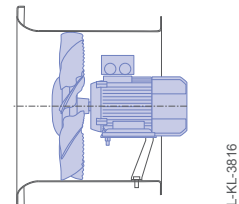
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN63V-2DF.K7.11.G9	11	20	256T	PEM	364.7	51.1	51.1
DN63V-2DF.K7.14.G9	14	20	256T	PEM	364.7	49.7	49.5
DN63V-2DF.K7.19.G9	19	25	256T	PEM	407.9	47.1	46.7



MAXventowlet

for three phase alternating current, 4 pole

DN63V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

Blade: High Performance Composite Material, Impeller

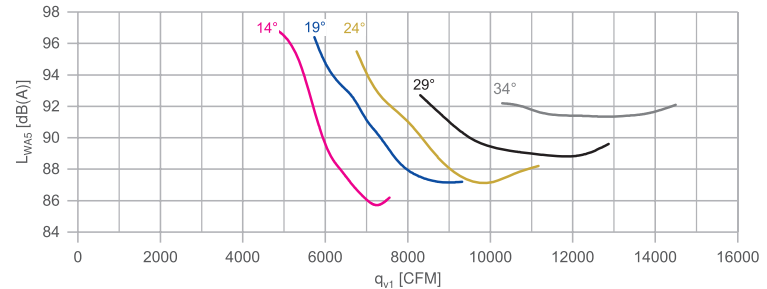
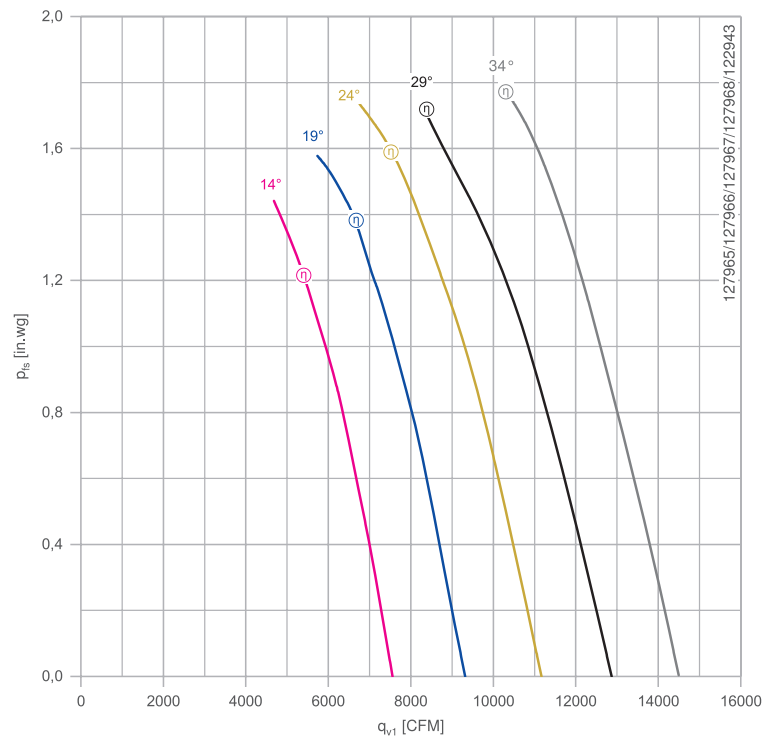
unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

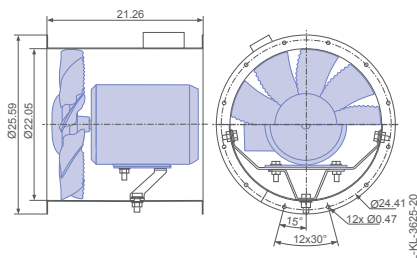


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/
motor according to ISO 5801

Dimensions inch

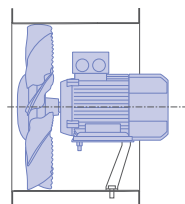
Design F

Long casing



Design K

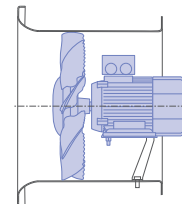
Short casing (on request)



L-KL-3815

Design S - Short casing

with integrated inlet nozzle (on request)



L-KL-3816

Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN63V-4DF.E7.14.G9	14	3	182T	PEM	163.8	50.8	55.9
DN63V-4DF.E7.19.G9	19	3	182T	PEM	163.8	52.1	56.4
DN63V-4DF.F7.24.G9	24	5	184T	PEM	183.9	49.5	52.9
DN63V-4DF.F7.29.G9	29	5	184T	PEM	183.9	45.4	48.0
DN63V-4DF.G7.34.G9	34	7.5	213T	PEM	243.4	41.5	43.2

MAXventowlet

for three phase alternating current, 4 pole

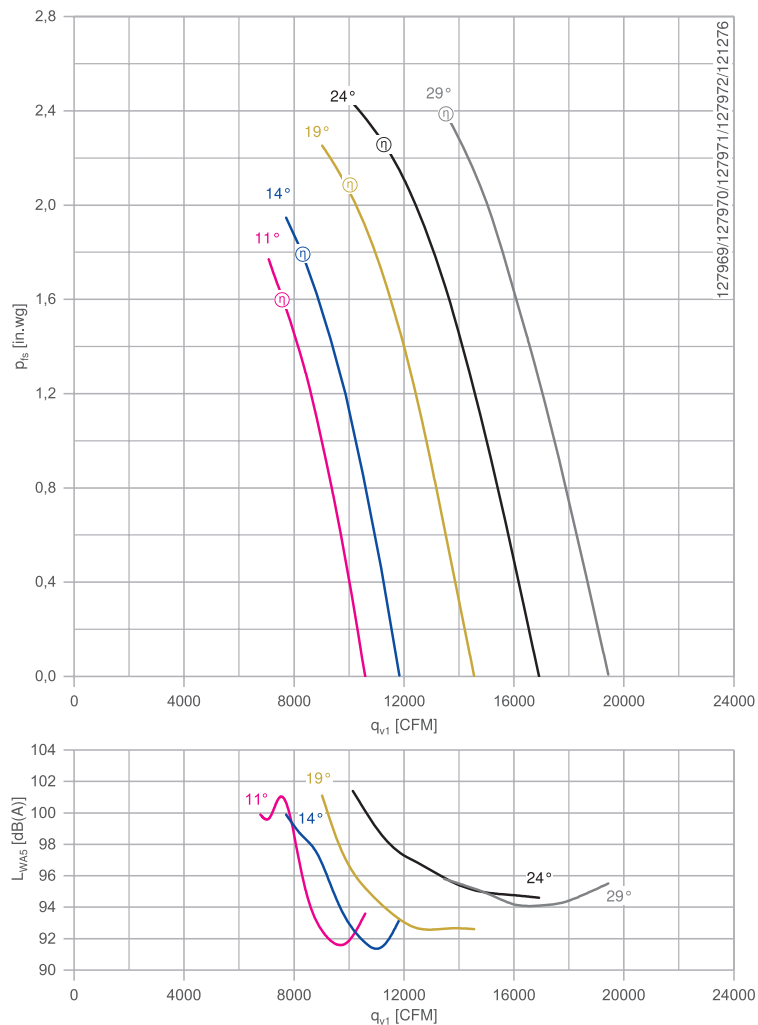
DN71V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

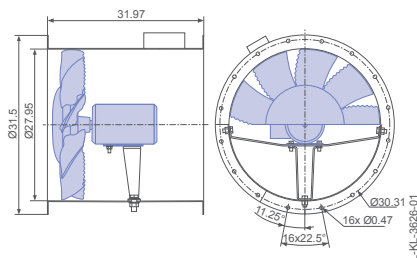
Characteristic curve



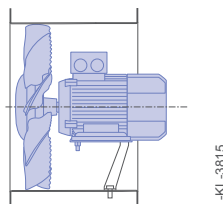
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

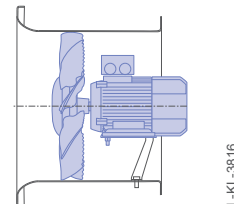
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting °	Rated power hp	Motor size	Motor technology	Design F Weight lbs	Efficiency η_{statA} %	Efficiency grade N_{actual} %
DN71V-4DF.F7.11.G9	11	5	184T	PEM	218.7	47.2	50.4
DN71V-4DF.F7.14.G9	14	5	184T	PEM	218.7	47.9	50.6
DN71V-4DF.G7.19.G9	19	7.5	213T	PEM	285.3	47.1	48.9
DN71V-4DF.H7.24.G9	24	10	215T	PEM	254.2	46.0	47.1
DN71V-4DF.H7.29.G9	29	10	215T	PEM	296.4	43.9	44.3



MAXventowlet

for three phase alternating current, 6 pole

DN71V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

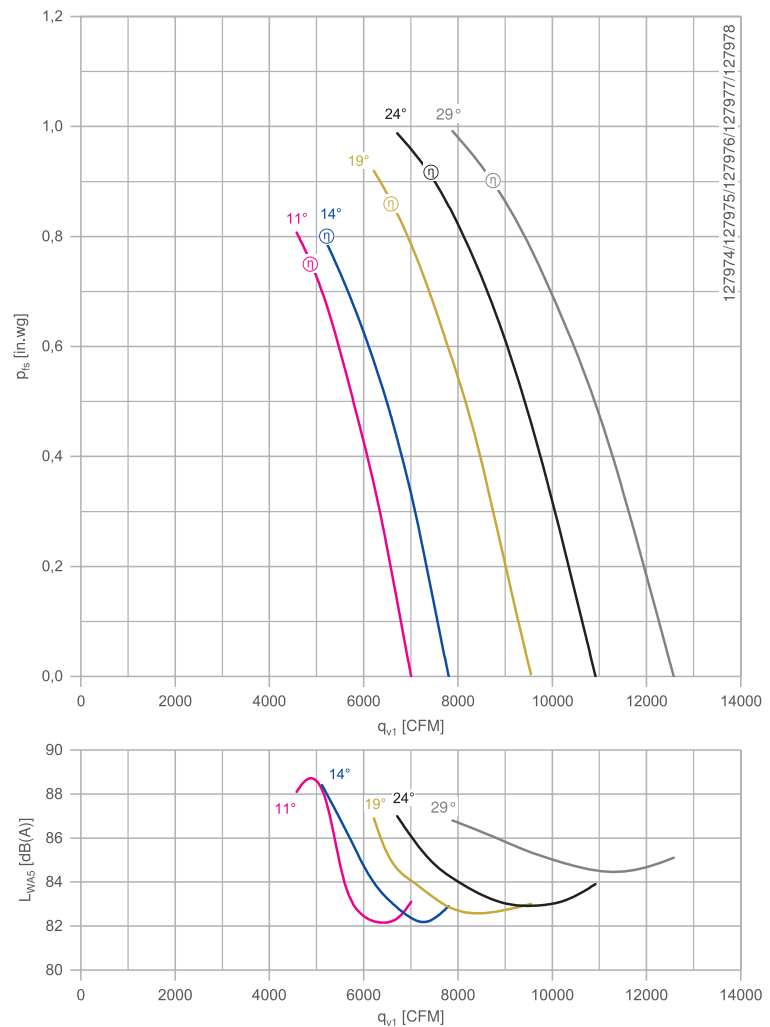
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

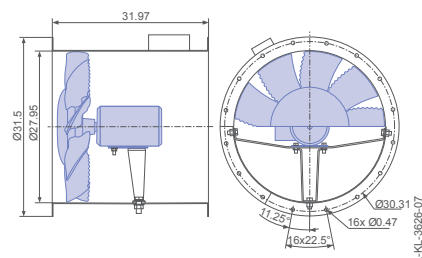


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

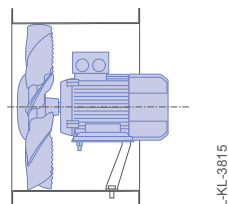
Design F

Long casing



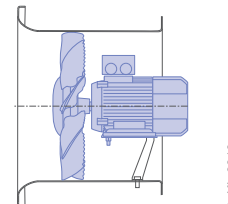
Design K

Short casing (on request)



Design S - Short casing

with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN71V-6DF.E7.11.G9	11	1.5	182T	PEM	158.1	50.0	56.7
DN71V-6DF.E7.14.G9	14	1.5	182T	PEM	158.1	48.1	54.3
DN71V-6DF.F7.19.G9	19	2	184T	PEM	218.7	44.9	50.0
DN71V-6DF.G7.24.G9	24	3	213T	PEM	268.3	44.1	48.7
DN71V-6DF.G7.29.G9	29	3	213T	PEM	268.3	36.0	39.7

MAXventowlet

for three phase alternating current, 4 pole

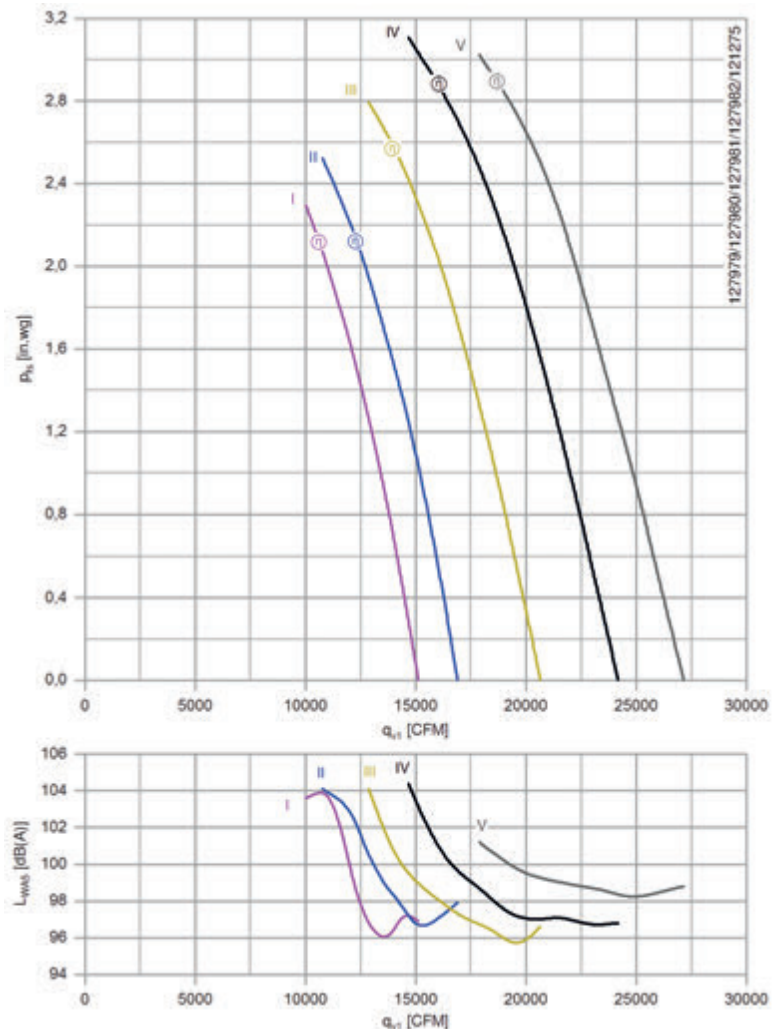
DN80V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

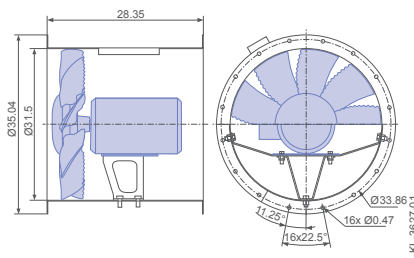
Characteristic curve



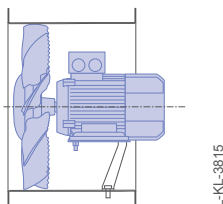
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

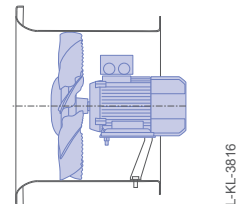
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN80V-4DF.G7.11.G9	11	7.5	213T	PEM	305.0	54.3	56.2
DN80V-4DF.H7.14.G9	14	10	215T	PEM	316.0	53.3	54.8
DN80V-4DF.I7.19.G9	19	15	254T	PEM	433.3	50.6	51.0
DN80V-4DF.I7.24.G9	24	15	254T	PEM	433.3	49.6	49.6
DN80V-4DF.K7.29.G9	29	20	256T	PEM	452.2	43.4	43.2

MAXventowlet

for three phase alternating current, 6 pole

DN80V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

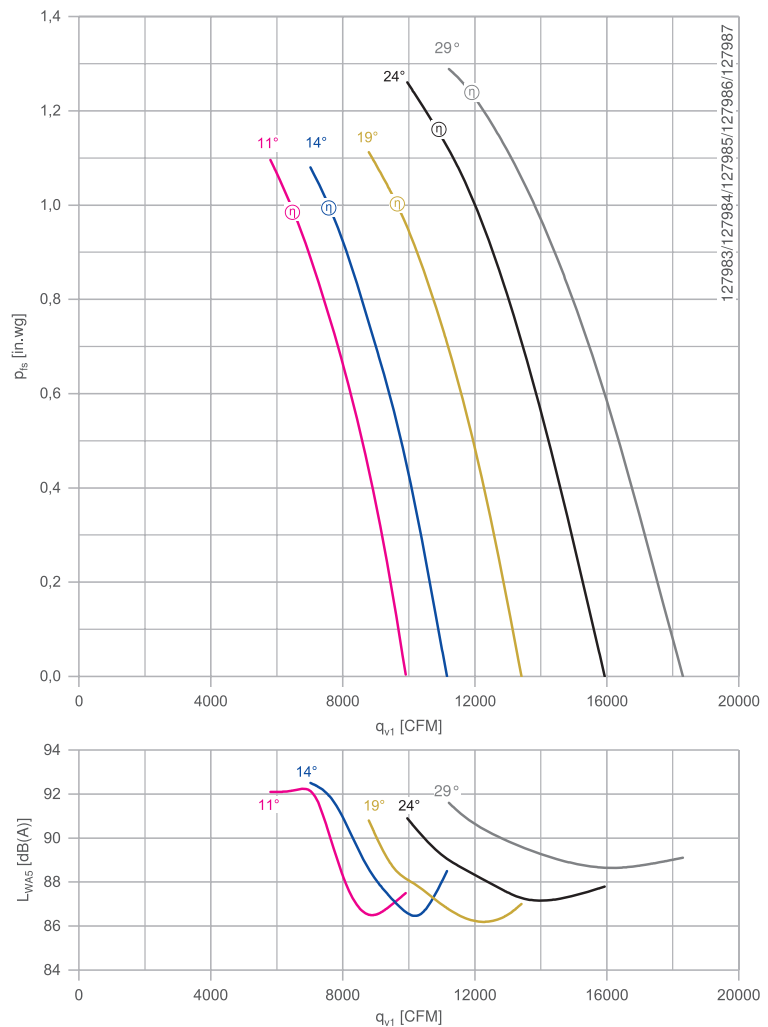
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

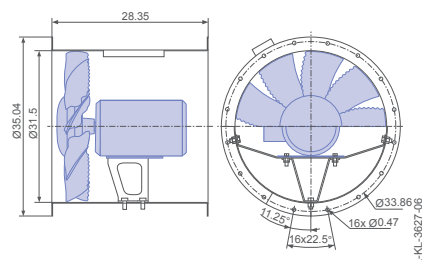
Characteristic curve



Dimensions inch

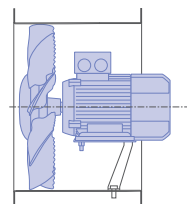
Design F

Long casing



Design K

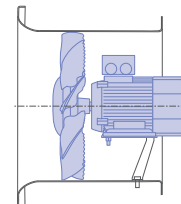
Short casing (on request)



L-KL-3815

Design S - Short casing

with integrated inlet nozzle (on request)



L-KL-3816

Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN80V-6DF.F7.11.G9	11	2	184T	PEM	244.1	50.6	55.7
DN80V-6DF.F7.14.G9	14	2	184T	PEM	247.0	50.7	55.5
DN80V-6DF.G7.19.G9	19	3	213T	PEM	288.0	50.0	53.9
DN80V-6DF.H7.24.G9	24	5	215T	PEM	307.8	47.9	51.0
DN80V-6DF.H7.29.G9	29	5	215T	PEM	307.8	43.9	46.4

MAXventowlet

for three phase alternating current, 4 pole

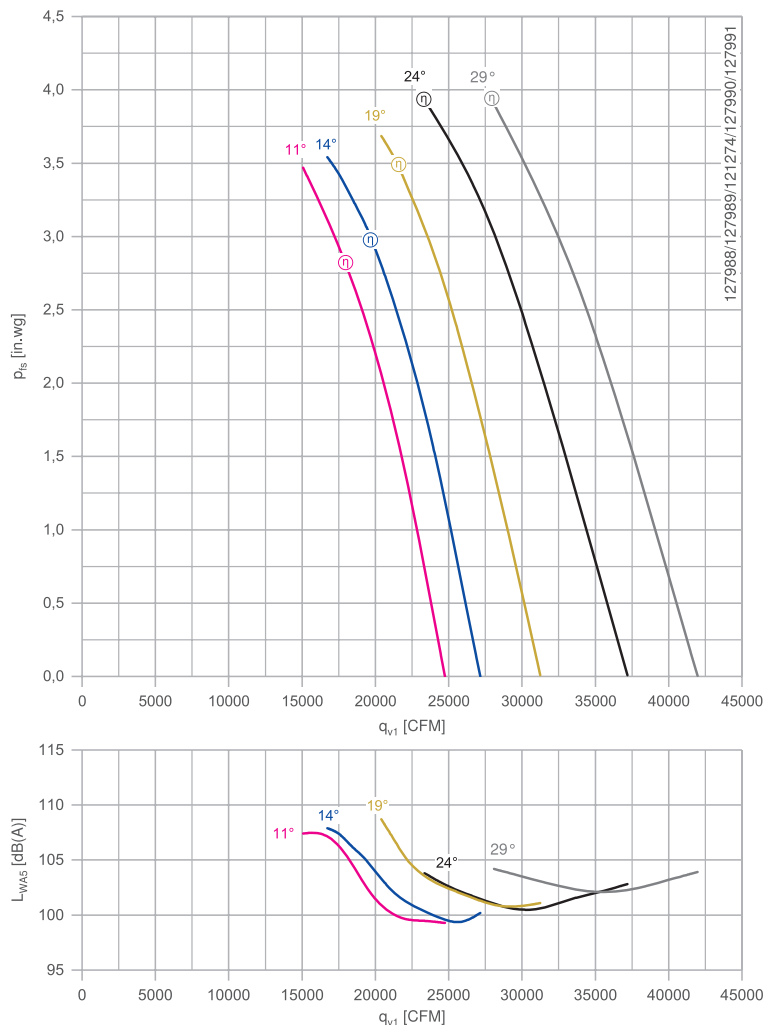
DN90V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

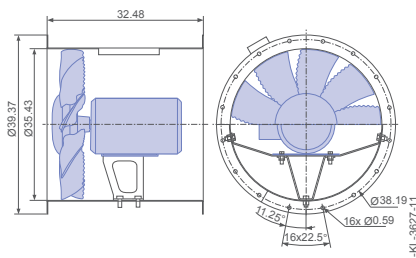
Characteristic curve



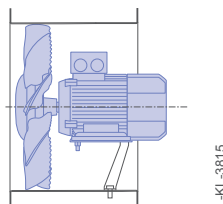
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

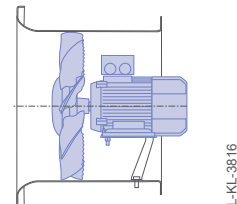
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN90V-4DF.I7.11.G9	11	15	254T	PEM	471.6	53.5	53.4
DN90V-4DF.K7.14.G9	14	20	256T	PEM	490.6	54.2	54.1
DN90V-4DF.L7.19.G9	19	25	284T	PEM	595.4	49.3	48.9
DN90V-4DF.M7.24.G9	24	30	286T	PEM	637.2	47.8	47.3
DN90V-4DF.N7.29.G9	29	40	324T	PEM	785.2	45.0	44.3



MAXventowlet

for three phase alternating current, 6 pole

DN90V



Description

Rated voltage U_N : 3~460 V*

Rated frequency f_N : 60 Hz*

Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C

Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C

Number of blades: 9

Degree of protection : TEFC

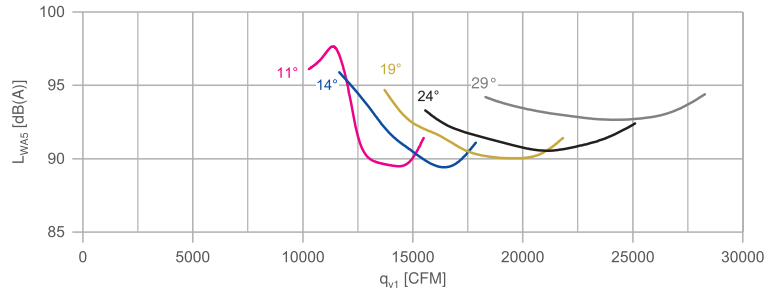
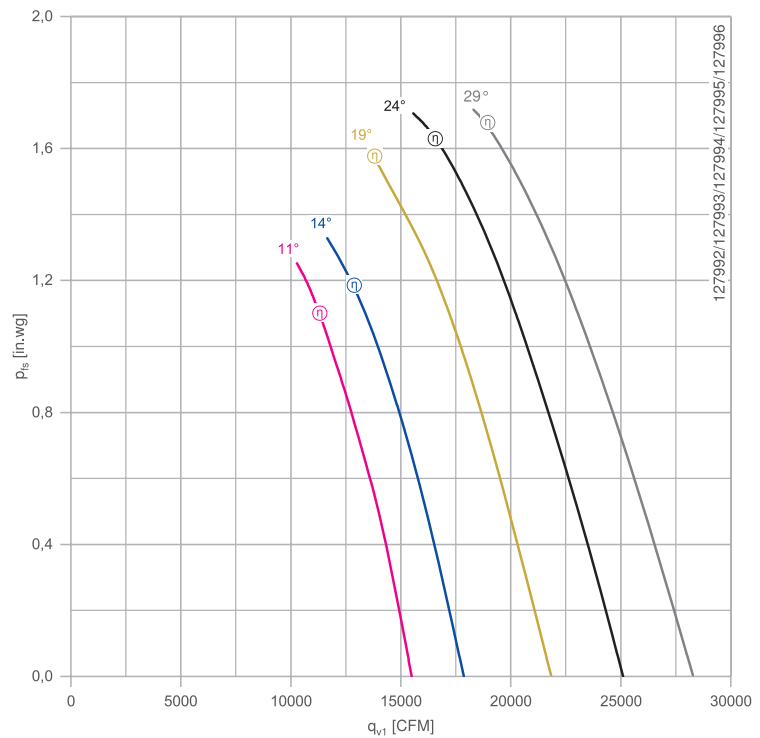
Blade: High Performance Composite Material, Impeller unpainted, black

Motor: Standard motor NEMA

* Rated data

Other versions on request.

Characteristic curve

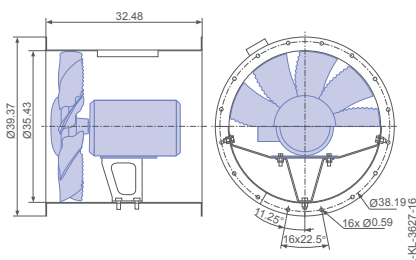


Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

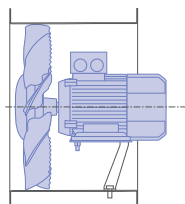
Design F

Long casing



Design K

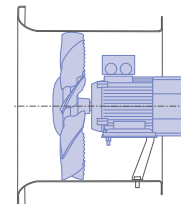
Short casing (on request)



L-KL-3815

Design S - Short casing

with integrated inlet nozzle (on request)



L-KL-3816

Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN90V-6DF.H7.11.G9	11	5	215T	PEM	338.9	52.0	55.4
DN90V-6DF.H7.14.G9	14	5	215T	PEM	338.9	49.2	51.9
DN90V-6DF.I7.19.G9	19	7.5	254T	PEM	480.2	47.1	48.7
DN90V-6DF.K7.24.G9	24	10	256T	PEM	491.5	47.3	48.3
DN90V-6DF.K7.29.G9	29	10	256T	PEM	491.5	44.2	44.7

MAXventowlet

for three phase alternating current, 4 pole

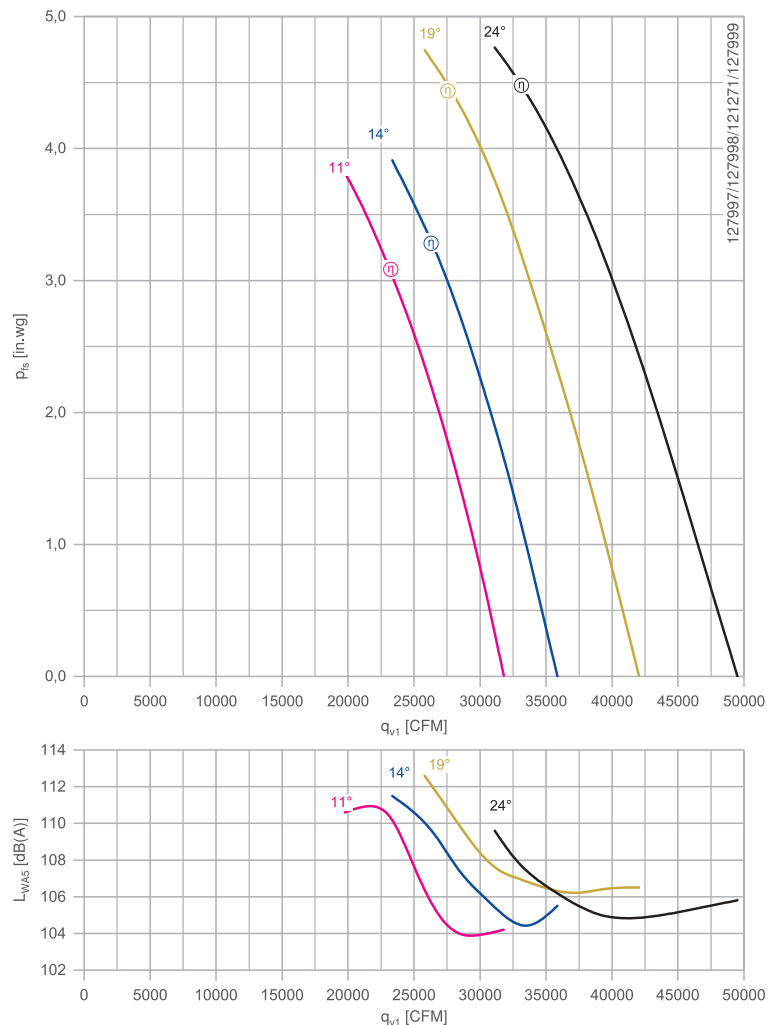
DN10V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

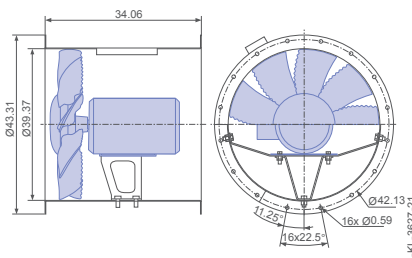
Characteristic curve



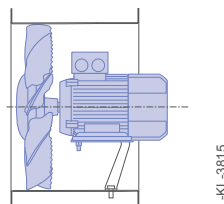
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

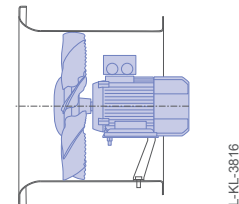
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN10V-4DF.K7.11.G9	11	20	256T	PEM	563.2	56.0	55.7
DN10V-4DF.L7.14.G9	14	25	284T	PEM	619.2	56.4	56.0
DN10V-4DF.N7.19.G9	19	40	324T	PEM	854.2	51.8	51.0
DN10V-4DF.P7.24.G9	24	50	326T	PEM	934.3	51.6	50.8



MAXventowlet

for three phase alternating current, 6 pole

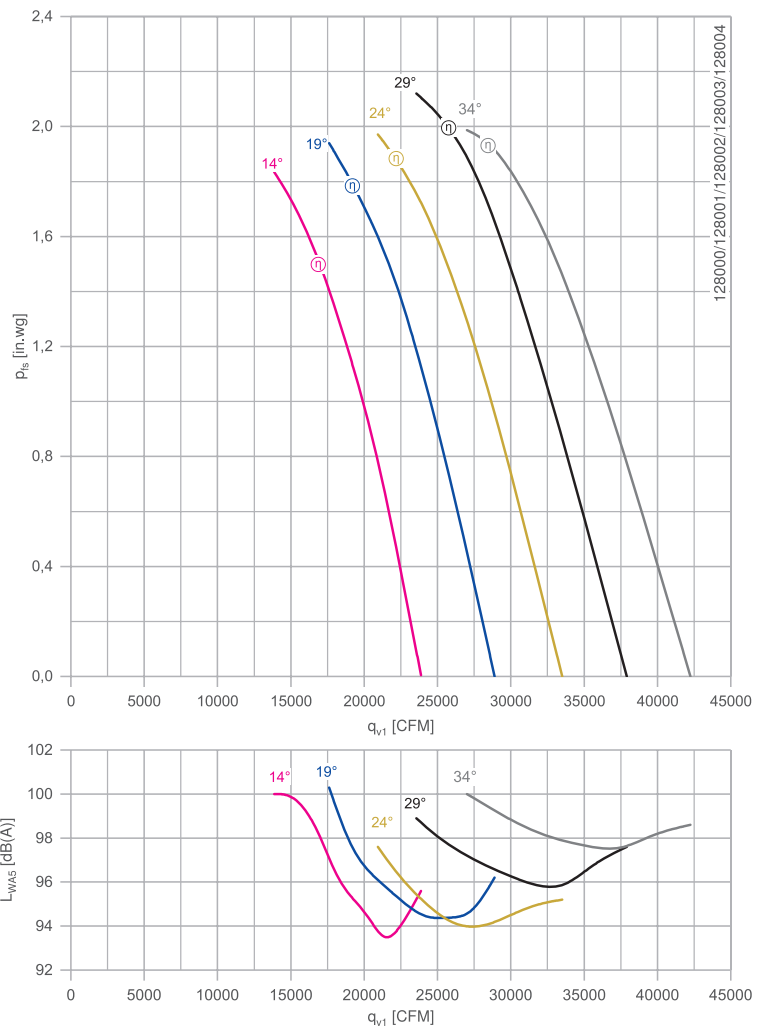
DN10V



Description

Rated voltage U_N : 3-460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

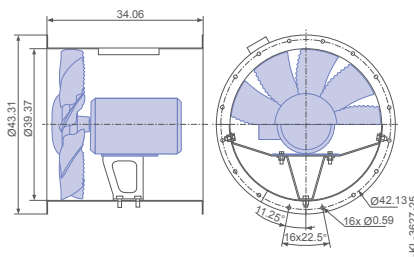
Characteristic curve



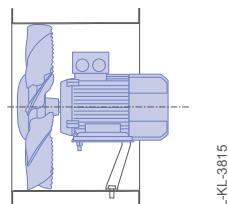
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

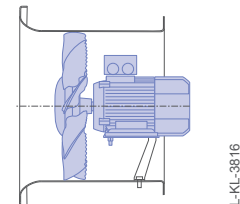
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN10V-6DF.I7.14.G9	14	7.5	254T	PEM	537.4	55.5	57.1
DN10V-6DF.K7.19.G9	19	10	256T	PEM	549.5	52.7	53.4
DN10V-6DF.L7.24.G9	24	15	284T	PEM	657.5	49.2	49.3
DN10V-6DF.M7.29.G9	29	20	286T	PEM	665.2	46.1	46.0
DN10V-6DF.M7.34.G9	34	20	286T	PEM	665.2	41.2	40.9

MAXventowlet

for three phase alternating current, 8 pole

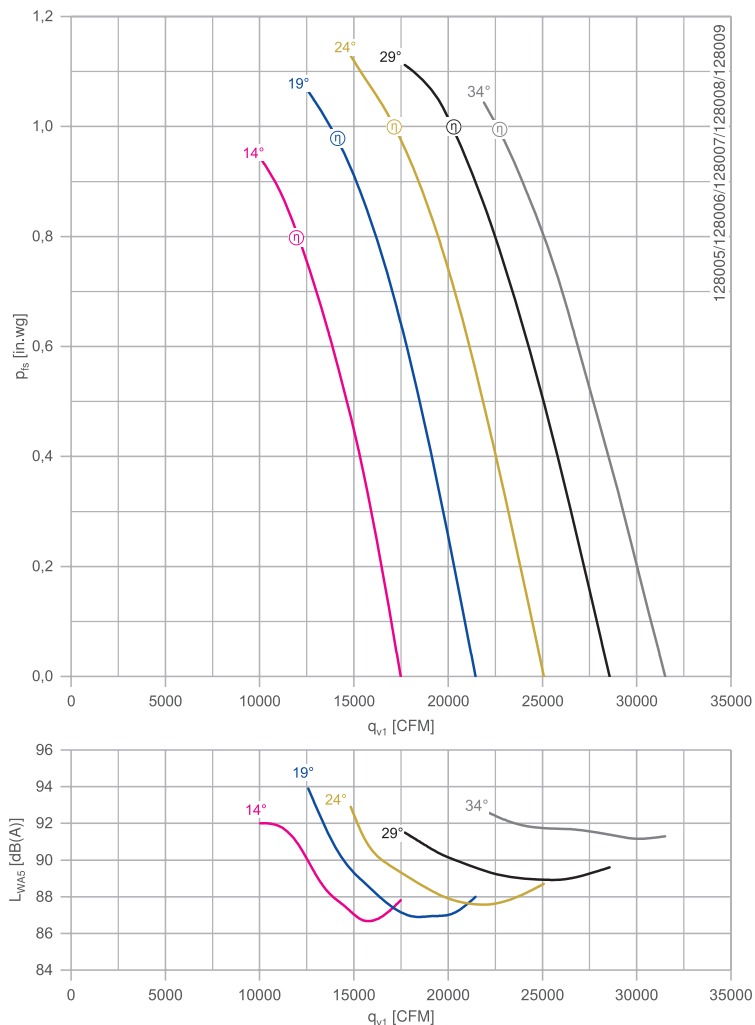
DN10V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

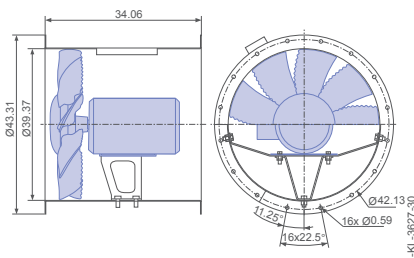
Characteristic curve



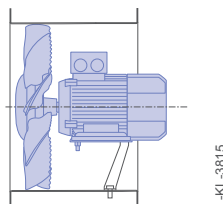
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

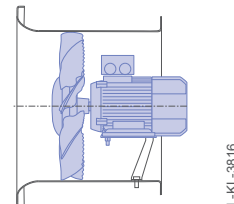
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN10V-8DF.H7.14.G9	14	3	215T	PEM	365.6	52.3	56.4
DN10V-8DF.I7.19.G9	19	5	254T	PEM	488.6	52.0	55.1
DN10V-8DF.I7.24.G9	24	5	254T	PEM	488.6	55.6	58.3
DN10V-8DF.K7.29.G9	29	7.5	256T	PEM	529.6	46.0	47.7
DN10V-8DF.L7.34.G9	34	10	284T	PEM	631.3	40.6	41.7

MAXventowlet

for three phase alternating current, 6 pole

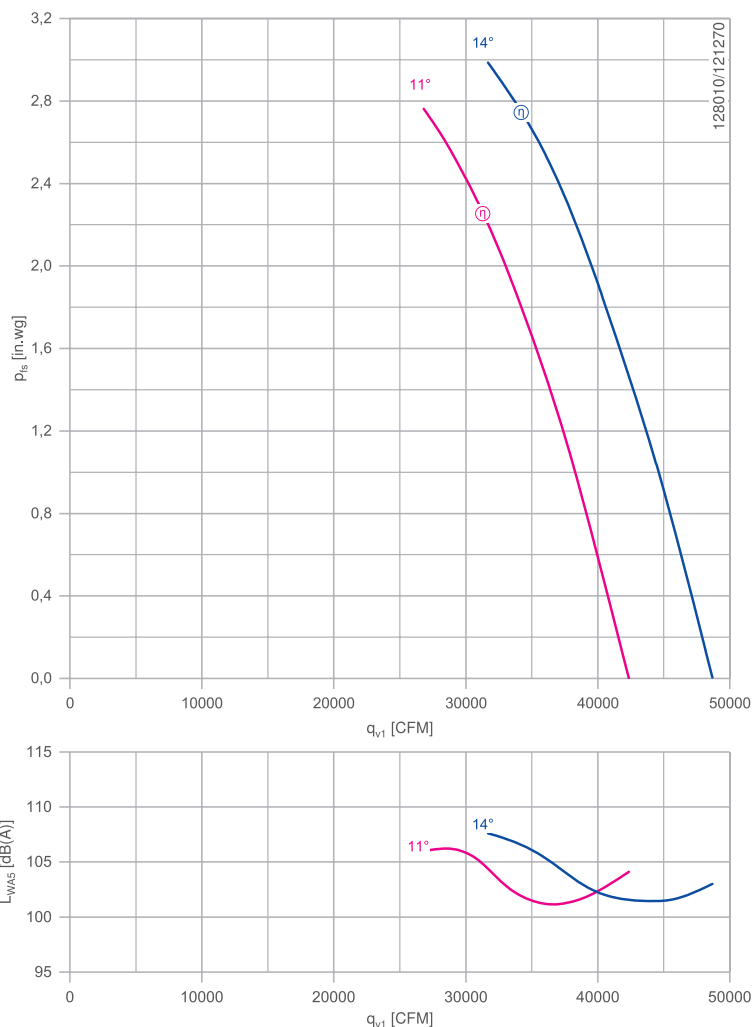
DN12V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

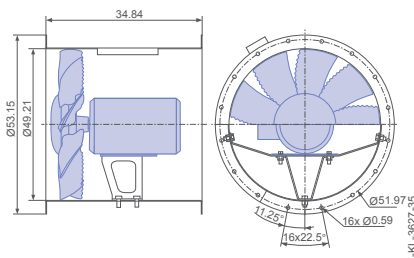
Characteristic curve



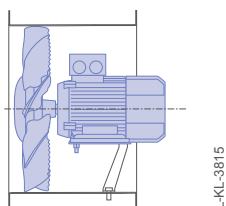
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

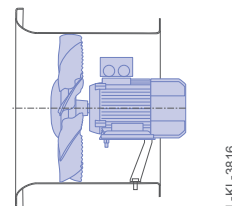
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN12V-6DF.P7.11.G9	11	40	326T	PEM	930.1	52.8	52.5
DN12V-6DF.N7.14.G9	14	25	324T	PEM	771.1	51.6	51.1

MAXventowlet

for three phase alternating current, 8 pole

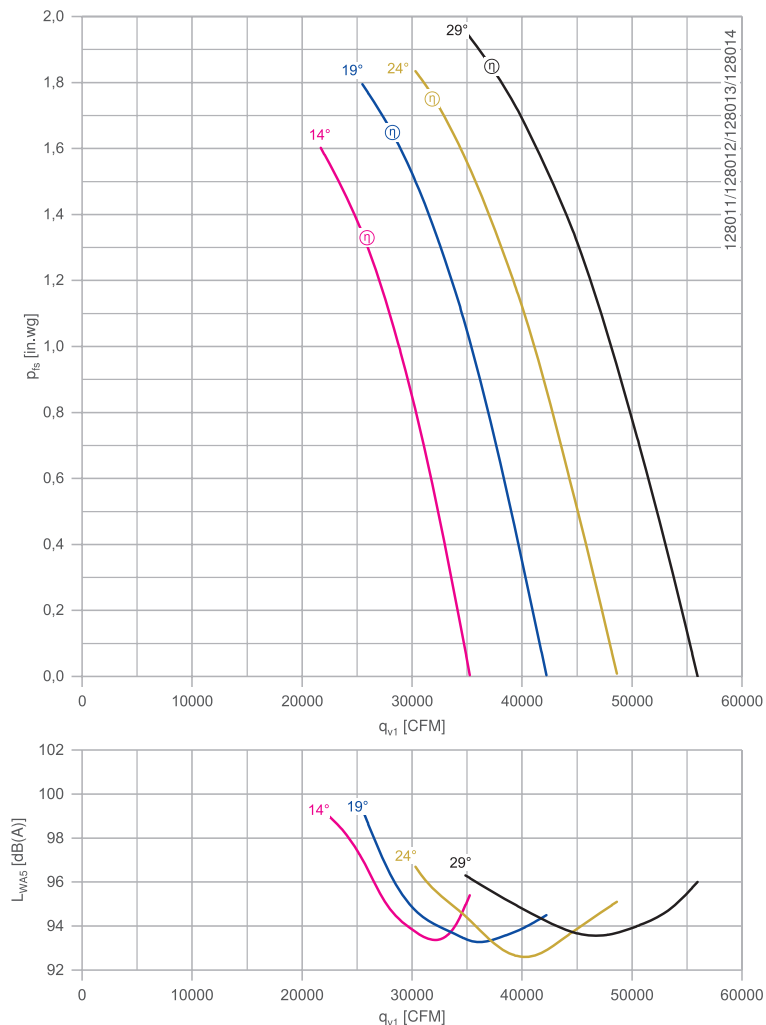
DN12V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

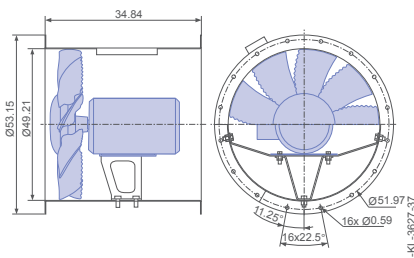
Characteristic curve



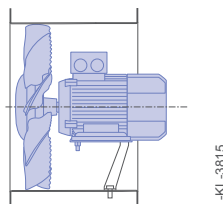
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/ motor according to ISO 5801

Dimensions inch

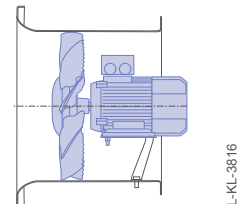
Design F
Long casing



Design K
Short casing (on request)



Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN12V-8DF.L7.14.G9	14	10	284T	PEM	684.9	52.4	53.1
DN12V-8DF.M7.19.G9	19	15	286T	PEM	719.7	49.0	48.9
DN12V-8DF.N7.24.G9	24	20	324T	PEM	860.0	46.9	46.7
DN12V-8DF.P7.29.G9	29	20	326T	PEM	860.0	44.0	43.5



MAXventowlet

for three phase alternating current, 8 pole

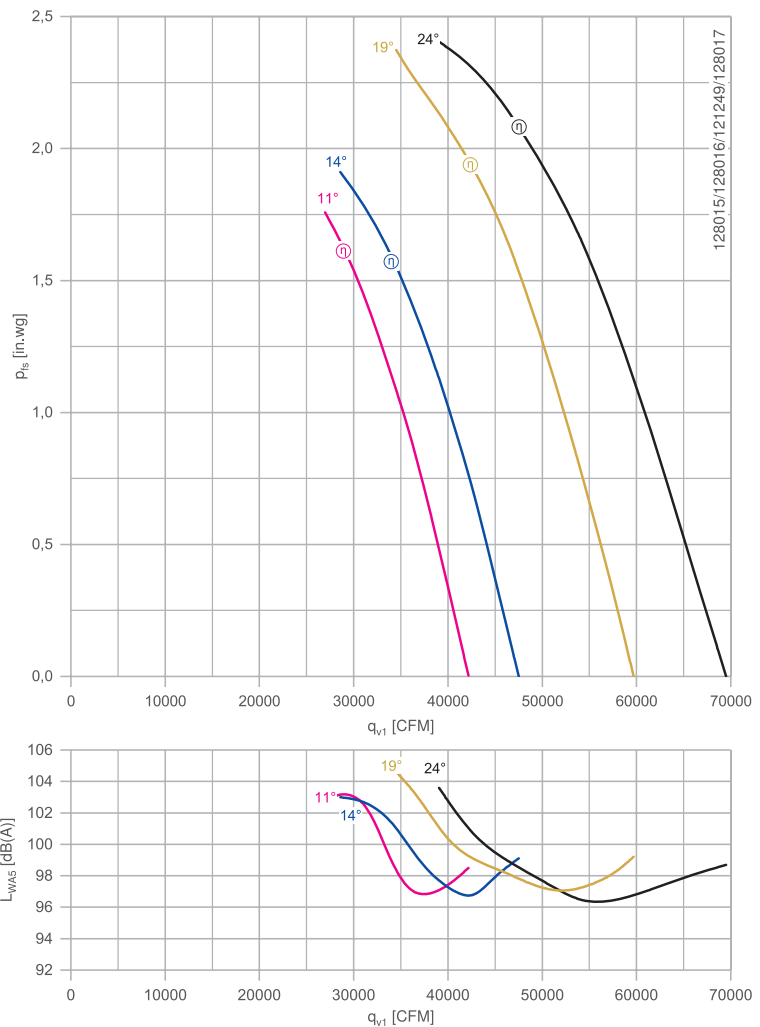
DN14V



Description

Rated voltage U_N : 3~460 V*
Rated frequency f_N : 60 Hz*
Min. permitted ambient temperature $t_{amb(min)}$: -4 °F / -20 °C
Max. permitted ambient temperature $t_{amb(max)}$: 122 °F / 50 °C
Number of blades: 9
Degree of protection : TEFC
Blade: ZAmid, Impeller unpainted, Blue
Motor: Standard motor NEMA
* Rated data
Other versions on request.

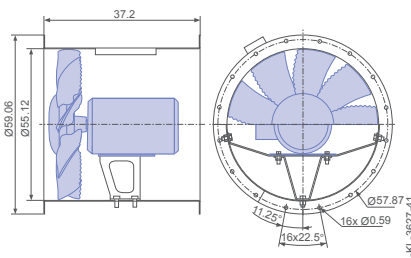
Characteristic curve



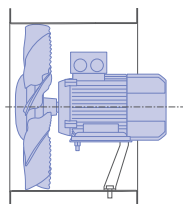
Measured in long casing with inlet bell mouth without guard grille in installation type A air flow impeller/motor according to ISO 5801

Dimensions inch

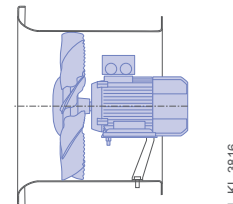
Design F
Long casing



Design K
Short casing (on request)

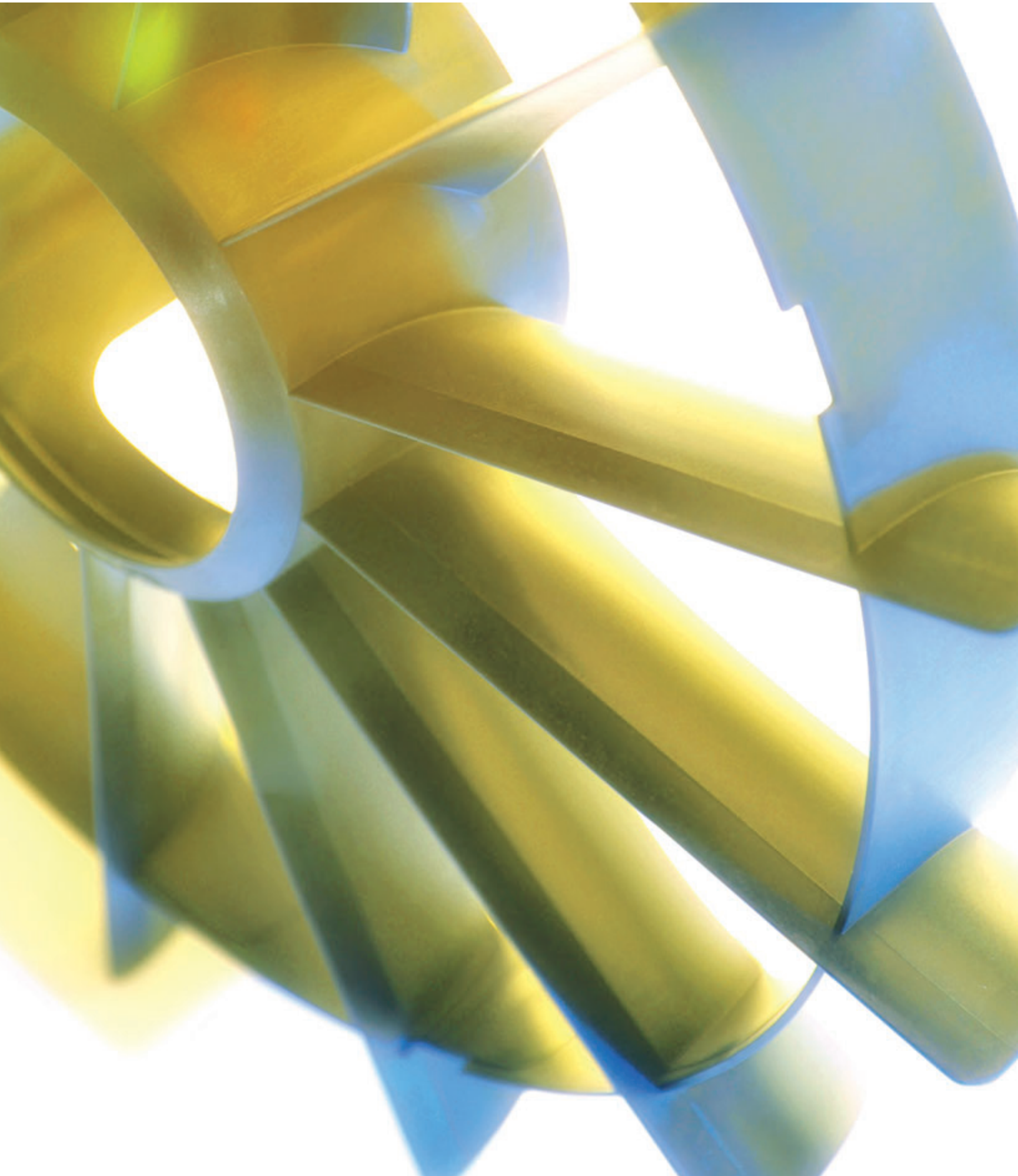


Design S - Short casing
with integrated inlet nozzle (on request)



Technical data

Type	Blade setting	Rated power	Motor size	Motor technology	Design F Weight	Efficiency	Efficiency grade
	°	hp			lbs	η_{statA} %	N_{actual} %
DN14V-8DF.N7.11.G9	11	20	324T	PEM	977.7	55.0	55.1
DN14V-8DF.N7.14.G9	14	20	324T	PEM	977.7	54.5	54.5
DN14V-8DF.P7.19.G9	19	20	326T	PEM	1021.8	51.9	51.4
DN14V-8DF.R7.24.G9	24	30	364T	PEM	1260.2	51.9	51.3



System components

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components

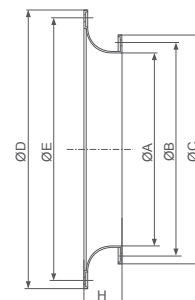
Control
technology

General notes

System components

Inlet nozzle

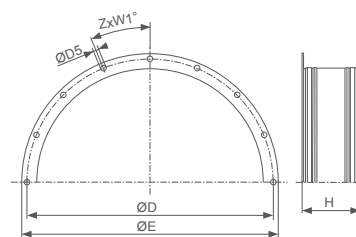
Inlet nozzle								
Corrosion protection G	Corrosion protection H	Type	A [inch]	B [inch]	C [inch]	D [inch]	E [inch]	H [inch]
Article no.	Article-no.							
00500107	00500356	DN31	12.40	13.98	14.65	16.73	15.55	4.92
00500354	00500357	DN35	13.98	15.55	16.73	18.50	17.72	4.92
00500108	00500358	DN40	15.75	17.72	18.50	20.87	19.69	4.92
00500355	00500359	DN45	17.72	19.69	20.87	23.23	22.05	4.92
00500109	00500360	DN50	19.69	22.05	23.23	25.59	24.41	4.92
00500110	00500361	DN56	22.05	25.59	24.41	28.35	27.17	4.92
00500111	00500362	DN63	24.80	27.17	28.35	31.50	30.31	4.92
00500112	00500363	DN71	27.95	30.31	31.50	35.04	33.86	4.92
00500113	00500364	DN80	31.50	33.86	35.04	39.37	38.19	4.92
00500114	00500365	DN90	35.43	38.19	39.37	43.31	42.13	4.92
00500115	00500366	DN10	39.37	42.13	43.31	48.03	46.85	5.91
00500116	00500367	DN12	49.21	51.97	53.15	59.06	57.87	7.09
00500117	00500368	DN14	55.12	57.87	59.06	67.72	66.14	9.06



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Flexible connector

Flexible connector						
Corrosion protection G	Corrosion protection H		D [inch]	E [inch]	D5 [inch]	Z x W1°
Article no.	Article-no.					
00500424	00500437	DN31	14.65	13.98	0.39	8 x 45°
00500425	00500438	DN35	16.73	15.55	0.39	8 x 45°
00500426	00500439	DN40	18.50	17.72	0.47	8 x 45°
00500427	00500440	DN45	20.87	19.69	0.47	8 x 45°
00500428	00500441	DN50	23.23	22.05	0.47	12 x 30°
00500429	00500442	DN56	25.59	24.41	0.47	12 x 30°
00500430	00500443	DN63	28.35	27.17	0.47	12 x 30°
00500431	00500444	DN71	31.50	30.31	0.47	16 x 22.5°
00500432	00500445	DN80	35.04	33.86	0.47	16 x 22.5°
00500433	00500446	DN90	39.37	38.19	0.59	16 x 22.5°
00500434	00500447	DN10	43.31	42.13	0.59	16 x 22.5°
00500435	00500448	DN12	53.15	51.97	0.59	20 x 18°
00500436	00500449	DN14	59.06	57.87	0.59	20 x 18°



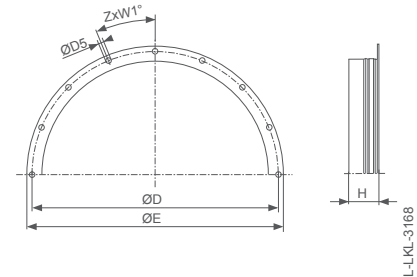
L-LKL-3167



System components

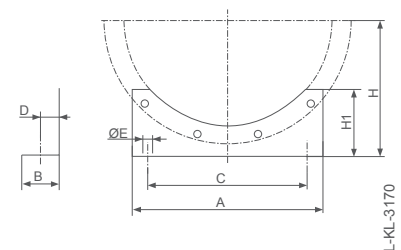
Mating flange

Mating flange							
Corrosion protection G Article no.	Corrosion protection H Article-no.	Type	E [inch]	D [inch]	D5 [inch]	Z x W1°	H [inch]
00500118	00500340	DN31	14.65	13.98	0.39	8 x 45°	1.38
00500093	00500341	DN35	16.73	15.55	0.39	8 x 45°	1.38
00500119	00500342	DN40	18.50	17.72	0.47	8 x 45°	1.38
00500339	00500343	DN45	20.87	19.69	0.47	8 x 45°	1.38
00500120	00500344	DN50	23.23	22.05	0.47	12 x 30°	1.38
00500121	00500345	DN56	25.59	24.41	0.47	12 x 30°	1.38
00500122	00500346	DN63	28.35	27.17	0.47	12 x 30°	1.97
00500123	00500347	DN71	31.50	30.31	0.47	16 x 22.5°	1.97
00500124	00500348	DN80	35.04	33.86	0.47	16 x 22.5°	1.97
00500125	00500349	DN90	39.37	38.19	0.59	16 x 22.5°	1.97
00500126	00500350	DN10	43.31	42.13	0.59	16 x 22.5°	1.97
00500127	00500351	DN12	53.15	51.97	0.59	20 x 18°	1.97
00500128	00500352	DN14	59.06	57.87	0.59	20 x 18°	1.97



Mounting feet

Mounting feet									
Corrosion protection G Article no.	Corrosion protection H Article-no.	Type	A [inch]	B [inch]	C [inch]	D [inch]	E [inch]	H [inch]	H1 [inch]
00500129	00500370	DN31	7.87	1.57	5.91	0.79	0.28	7.87	1.97
00500094	00500371	DN35	7.87	1.57	5.91	0.79	0.28	9.06	2.76
00500130	00500372	DN40	12.99	1.57	11.02	0.79	0.28	9.84	3.15
00500369	00500373	DN45	15.75	1.57	13.78	0.79	0.28	11.02	4.92
00500131	00500374	DN50	17.32	2.36	15.35	1.57	0.47	12.40	5.51
00500132	00500375	DN56	18.90	2.36	16.93	1.57	0.47	13.98	6.10
00500133	00500376	DN63	20.87	2.36	18.90	1.57	0.47	15.75	6.89
00500134	00500377	DN71	20.87	2.36	18.90	1.57	0.71	17.72	6.30
00500135	00500378	DN80	20.87	3.15	18.90	1.97	0.71	19.69	6.30
00500136	00500379	DN90	23.62	3.15	21.65	1.97	0.71	22.05	7.09
00500137	00500380	DN10	25.98	3.15	24.02	1.97	0.71	24.80	8.46
00500138	00500381	DN12	39.37	3.15	37.40	1.97	0.71	27.95	10.63
00500139	00500382	DN14	43.31	3.15	41.34	1.97	0.71	31.50	12.20

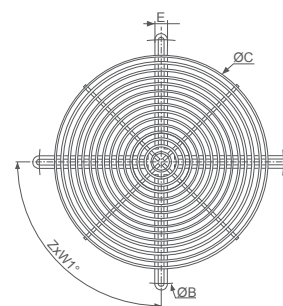


System components

Guard grille

Impeller side

Guard grille							
Mesh grille 0.39 inch Article-No.	Mesh grille 0.79 inch Article-No.	Type	B [inch]	C [inch]	D [inch]	E [inch]	Z x W1°
00500140	00500540	DN31	13.98	12.20	14.76	0.31	4 x 90°
00500141	00500541	DN35	15.55	14.57	16.34	0.31	4 x 90°
00500142	00500542	DN40	17.72	16.14	18.50	0.31	4 x 90°
00500143	00500543	DN45	19.69	18.50	20.47	0.31	4 x 90°
00500144	00500296	DN50	22.05	20.08	22.83	0.31	4 x 90°
00500145	00500544	DN56	24.41	22.44	25.20	0.31	4 x 90°
00500146	00500545	DN63	27.17	25.59	27.95	0.31	4 x 90°
00500147	00500546	DN71	30.31	27.95	31.30	0.35	8 x 45°
00500148	00500547	DN80	33.86	31.89	34.84	0.35	8 x 45°
00500149	00500548	DN90	38.19	35.83	39.76	0.51	8 x 45°
00500150	00500549	DN10	42.13	39.76	43.31	0.51	16 x 22.5°
	00500151	DN10+I	46.85	44.49	48.03	0.51	20 x 18°
00500152	00500550	DN12	51.97	49.21	53.15	0.51	20 x 18°
00500153	00500551	DN14	57.87	55.51	59.06	0.51	20 x 18°
	00500154	DN14+I	66.14	63.39	67.32	0.51	24 x 15°

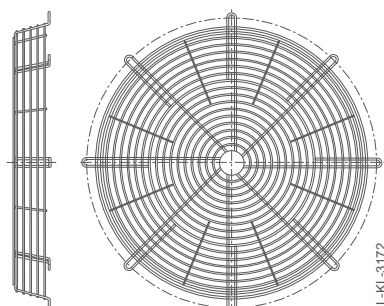


I = Inlet nozzle

L-KL-3171

Motor side

Please consult us



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Product overview

3~ Icontrol Basic Page 54

3~ Fcontrol Basic Page 56

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Frequency inverters

3~ Icontrol, universal controller with display



The Icontrol frequency inverters are provided preferably for the requirement-based and energy saving speed control of internal rotor motors (IEC standard motors). All ZIEHL-ABEGG sensors can be combined with the universal frequency inverters. The actual value measured at the sensor is compared with the setpoint. This results in activation of the connected fan. It can be controlled to air flow or differential pressure especially for application in air conditioning. Simple start-up is possible with the selectable operating modes available in the device. Processes in other application areas can also be controlled. The frequency inverters can be used flexibly.



Setting of the desired speed through device or by external default, e.g. 0...10 V



Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0-435 psi, 0-725 psi



Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..



Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0-24.09 in.wg, acquisition of volume flows up to 38,258 CFM

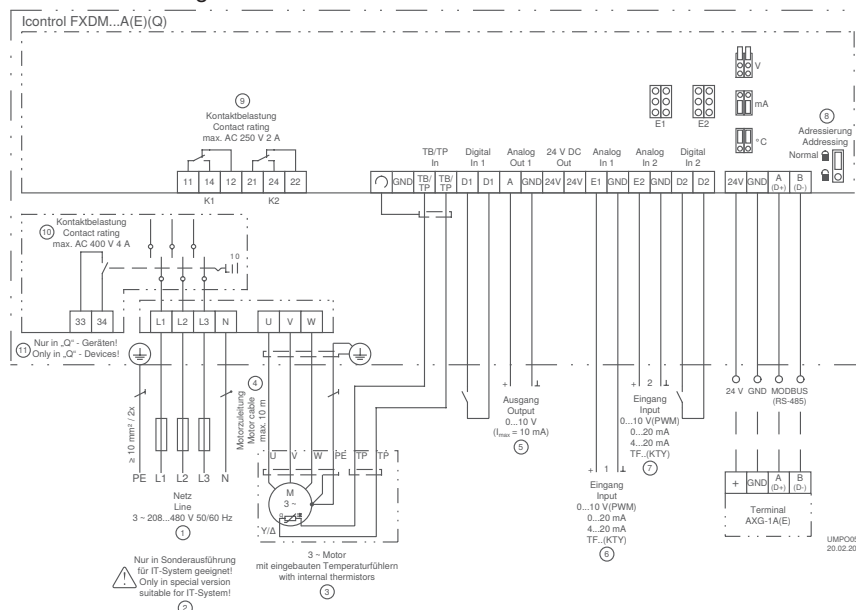


Connecting air velocity sensors, e.g. MAL.. type sensors, measuring range 0-3.28 ft/s, 0-32.8 ft/s



Connecting additional sensors, e.g. combination sensors, CO₂, sensor signal 0...10 V / 0...20 mA / 4...20 mA

Connection diagram



Standard conformity

Interference emission according to EN 61000-6-3 (domestic)
Interference immunity according to EN 61000-6-2 (industrial)

Equipment/characteristics:

Multifunctional display with plain text:

Various menu languages can be selected

Simple commissioning through operating modes:

Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

Easy to program:

Typical settings can be made: e.g., default a minimum rotational speed, limit the maximum rotational speed, inverting and limits.
Setting, e.g. for 2-stage mode

2 analogue inputs for sensors or set-point signals:

Analogue input E1 and E2: Setting through operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA
Analogue input E2: programmable, e.g. comparison to Sensor 1, difference Sensor 1, average calculation, set-point input, set-point adjustment (e.g. dependent on outdoor temperature)

2 digital inputs D1 and D2:

Programmable, e.g., enable function, switching Nominal value 1 or 2, switching control or manual operation, switching E1 or E2, reverse control function, limitation output, display external malfunction, reset, reverse the rotary direction

1 analogue output A1:

Setting through operating modes or manually programmable, e.g. e.g. output signal proportional control, output signal proportional input signal, invertible, 10 V fixed voltage, group control

2 digital outputs (relays) K1 and K2:

Setting through operating modes or manual programming, e.g. operating status, limits, external fault on digital input, enabling external devices, e.g. heating, dampers, group control of fans, etc.

Integrated motor protection function:

Connection facility for PTC thermistors or alternatively thermal contacts (TB or TP).

Interface RS485 MODBUS RTU:

Integration into bus system

Settings protection:

Enable settings protection from unauthorised access, restore implemented settings

Event memory:

Query events that have occurred, operating times, etc.

Optional equipment

The Icontrol frequency inverters are also available with an integrated main switch.

Type designation FXDM...AQ

The integrated main switch has the switch positions 0 and I (On/Off). In position 0 the switch can be locked with a padlock. An integrated auxiliary contact can be used to indicate the switch position. This enables you to recognise whether the switch has been actuated, for example, when a fault indication relay drops out.

Add-on modules for frequency inverters

- IO add-on module type Z-Modul-B, Article No. 380052
If the integrated inputs and outputs are not sufficient, other inputs and outputs can be created with the Z-Modul-B. These are also programmable:
 - 1 analog input
 - 1 analog output
 - 3 digital inputs
 - 2 digital outputs (relays)
- LON® Add-on module type Z-Modul-L, Article No. 380086
For integration into a bus system LON® by a two-wire

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Icontrol without main switch, with UL authorisation

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated power	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	kW	°F	A	W	°F		lbs	inch
FXDM32A	308078-UL	400	32	15	122	35	750	131	IP54	51.8	15.20 x 20.67 x 11.14
FXDM32AE	308079-UL		32	15	122	35	750	131	IP20	62.0	13.50 x 23.62 x 11.02

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance
rated power = power rating of the internal rotor motor. The motor rated current is decisive for the assignment of the frequency inverter.

Frequency inverters

3~ Fcontrol, universal controller with display



The Fcontrol frequency inverters provide special advantages. Fcontrols have an all pole effective sine filter integrated which provides sinusoidal output voltage that is comparable with the standard mains. That means the frequency inverter enables reliable, demand-oriented and energy-saving control of asynchronous motors (external rotor motors, internal rotor motors) without having to take measures into consideration required by standard frequency inverters.

The advantages provided by the Fcontrol frequency inverter are:

- Operation without shielded motor feed lines
- The line length is not restricted by Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No risk to motors (they do not have to be frequency inverter compatible) since they are supplied with sinusoidal voltage that corresponds to the line voltage.

The benefits are especially advantageous in plants in which motors or fans are operated in parallel on a frequency inverter. Motors connected in parallel often means long cable lengths which is no problem with the Fcontrol. On top of that, unshielded cables can be used.

The Fcontrol universal devices are ideal for the following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation tasks, clean room technology. Fast commissioning for typical applications in the stated sectors by selecting pre-programmed operating modes possible.

Input for sensors or speed settings through



Setting of the desired speed through device or by external default, e.g. 0...10 V



Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0-435 psi, 0-725 psi



Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..



Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0-24.09 in.wg, acquisition of volume flows up to 38,258 CFM

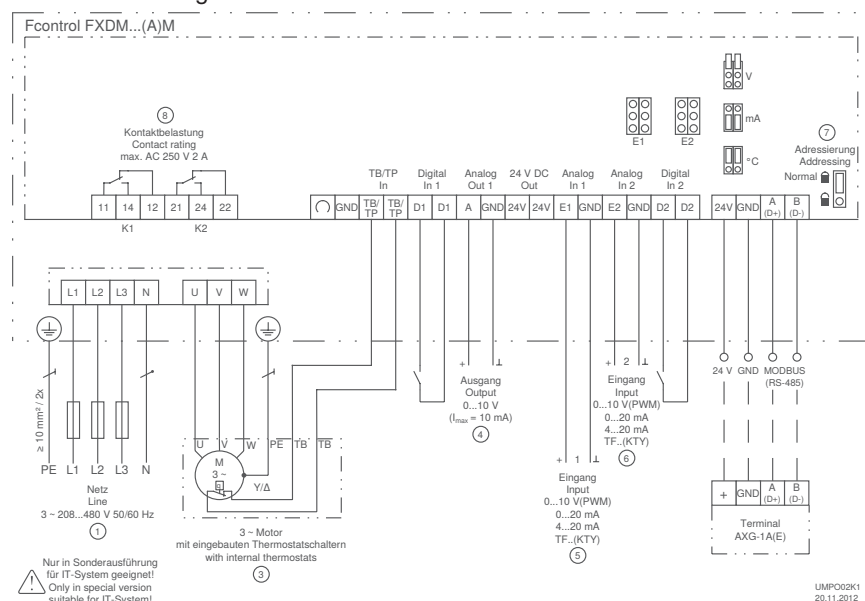


Connecting air velocity sensors, e.g. MAL.. type sensors, measuring range 0-3.28 ft/s, 0-32.8 ft/s



Connecting additional sensors, e.g. combination sensors, CO₂, sensor signal 0...10 V / 0...20 mA / 4...20 mA

Connection diagram



- ① Line
- ② Only in special version suitable for IT system!
- ③ Motor feeder cable
- ④ Output
- ⑤ Input
- ⑥ Addressing
- ⑦ Contact rating

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Standard conformity

Interference emission according to EN 61000-6-3 (domestic)
Interference immunity according to EN 61000-6-2 (industrial)

Equipment/Characteristics

Integrated all pole effective sine filter

Phase to phase and phase to grounded conductor which means sinusoidal output voltage. Measures typical for frequency inverters such as shielded motor feed lines are not required.

LC-multifunction display with plain text:

Various menu languages can be selected

Simple commissioning through operating modes:

Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

Easy to program:

Typical settings can be made: e.g., default a minimum speed, limit the maximum speed, inverting and limits. Setting, e.g. for 2-stage mode

2 analogue inputs for sensors or setpoint signals:

Analogue input E1 and E2: Setting through operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA

Analogue input E2: programmable, e.g. comparison to Sensor 1, difference to Sensor 1, average calculation, setpoint input, setpoint adjustment (e.g. dependent on outdoor temperature)

Two digital inputs. D1 and D2:

Programmable, e.g. enable, switchover Setpoint 1 or 2, switchover control or manual operation, switchover E1 or E2, reverse control function, limit output, display external fault, reset, reverse the rotary direction

1 analogue output A1:

Setting through operating modes or manually programmable, e.g., output signal proportional modulation, output signal proportional input signal, invertible, 10 V constant voltage, group control

2 digital outputs (relays) K1 and K2:

Setting through operating modes or manual programming, e.g. operating status, limits, external fault on digital input, enabling external devices, e.g. heating, dampers, group control of fans, etc.

Integrated motor protection function:

Connection facility for PTC thermistors or alternatively thermostats (TB or TP).

Interface RS485 MODBUS RTU:

Integration into bus system

Setting protection / memory for settings:

Enable settings protection from unauthorised access, restore implemented settings

Event memory:

Query events that have occurred, operating times, etc.

Optional equipment

Expansion module for frequency inverter

- IO-add-on module type Z-Module-B, Art. no. **380052**

if the integrated inputs and outputs are not sufficient, add more inputs and outputs with the Z-Module-B. They can also be programmed:

- 1 analogue input
- 1 analogue output
- 3 digital inputs
- 2 digital outputs (relay)

- LON® Expansion module type Z-Module-L, Art. no **380086**

For integration into a bus system LON® via 2-conductor wire

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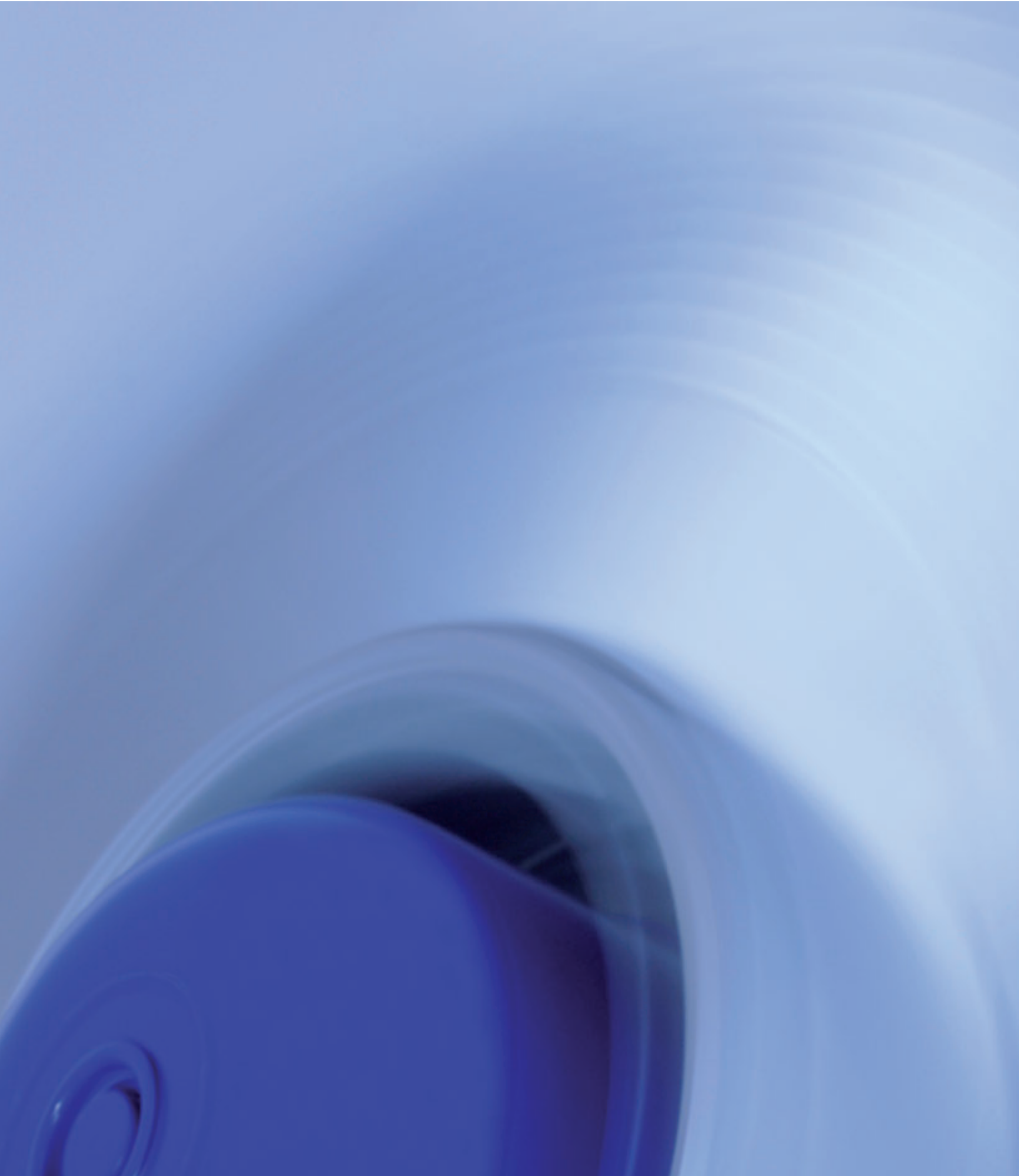
General notes

Fcontrol, universal controller with display, UL

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°F	A	W	°F		lbs	inch
FXDM32AM	308009-UL	400	32	122	35	700	131	IP54	62.8	15.20 x 20.67 x 11.14
FXDM32AME	308008-UL		32	122	35	700	131	IP20	73.0	13.50 x 23.62 x 11.02

Devices with a rated temperature below 131 °F can be used up to 131 °F with a reduction in performance.



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Explanation of technical details

Symbols, Units of Measure

Symbol	unit	Description
p_{is}	in. wg	Static pressure increase
p_{id}	in. wg	Dynamic pressure
q_{V1}	CFM	Air flow
n_N	rpm	Rated speed
P_e	hp / kW	Input power
P_{ed}	hp / kW	Input power system (including controller)
U_N	V	Rated voltage
f_N	Hz	Rated frequency
I_N	A	Rated current
I_A	A	Starting current
ΔI	%	Percentage increase of current based on rated current for speed control by voltage reduction
C_{400V}	μF	Capacity
$t_{amb (min)}$	$^{\circ}F / ^{\circ}C$	Max. permitted ambient temperature
$t_{amb (max)}$	$^{\circ}F / ^{\circ}C$	Max. permitted ambient temperature
L_{WA5}	dB(A)	A-rated suction-side sound power level
η_{statA}	%	Overall efficiency, static according to measurement category A at optimum duty point without losses of electronic speed control according to calculation method ErP-commission regulation No. 327/2011 annex II
N_{actual}	-	Actual efficiency grade of the fan based on an electrical input power of 10 kW at its point of optimum energy efficiency
N_{target}	-	Target efficiency grade at motor input power 10 kW
L_{pA}	dB(A)	A-weighted suction-side or pressure-side acoustic pressure level related to a certain measurement distance

Conversion factors

Pressure

		SI-unit	Further units		
		Pa (N/m ²)	mbar	in.wg	psi (lbf./in ²)
SI-unit	Pa (N/m ²)	1	0.01	0.004015	0.000145
Further units	mbar	100	1	0.401463	0.014503
	in.wg	249.10	2.49	1	0.036127
	psi (lbf./in ²)	6894.76	68.95	27.68	1

Air flow

		SI-unit	Further units		
		m ³ /s	m ³ /h	l/s	cfm
SI-unit	m ³ /s	1	3600	1000	2118.9
Further units	m ³ /h	0.000277	1	0.277777	0.588583
	l/s	0.001	3.6	1	2.1189
	cfm	0.000472	1.698994	0.471943	1

Temperature

		SI-unit	Further units
		$^{\circ}C$	$^{\circ}F$
SI-unit	$^{\circ}C$	1	$(^{\circ}C \times 1.8) + 32$
Further units	$^{\circ}F$	$(^{\circ}F - 32) / 1.8$	1



Installation and usage information

Installation position

The axial fans are essentially suitable in all installation positions. They are available in both air flow directions.

Installation instructions

When installing fans in the devices, it is important to ensure proper intake when the fan is installed by allowing a minimum integration distance equivalent to approximately one fan's diameter.

Air flow conditions

When installing fans in devices, even with compact design, favourable air flow conditions must be maintained.

The following installation recommendations (Fig. I and II) show the required minimum clearances.

Fig. I free inlet, compressed side connected

Fig. II free discharge, suction side connected

Fig. III inlet jets

The fan curves are measured with inlet jets (Fig. III, full nozzle) in Installation type A without guard grills.

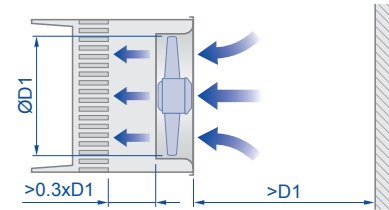


Fig. I

L-KL-2508

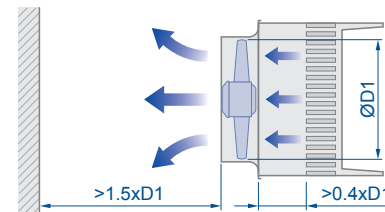


Fig. II

L-KL-2508/1

Operating conditions and product life

Safety equipment

The fans may only be operated when they are installed as intended and when safety is ensured by safety equipment according to DIN EN 294 resp. ISO 13852 (DIN EN ISO 12100) or by other protection measures.

ZIEHL-ABEGG MAXventowlet fans can be operated at ambient temperatures between -4°F / -20°C (minimum) and $+122^{\circ}\text{F}$ / $+50^{\circ}\text{C}$ (maximum) when used properly.

The following min./max. temperatures are available on request:
 -40°F / -40°C ... $+176^{\circ}\text{F}$ / $+80^{\circ}\text{C}$

Impellers are balanced according to IEC 1940 standard (G=6.3)

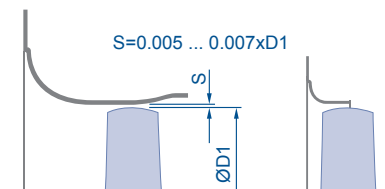


Fig. III

L-KL-2507

Contact protection

Guard grilles, offered as accessories can be positioned on the pressure and on the suction side of the fan as required and depending on the installation situation, to meet the safety requirements set out in DIN EN ISO 13857.

Operation with frequency inverter

ZIEHL-ABEGG MAXventowlet fans are suitable for operation with frequency inverters.

Aerodynamics and Acoustics

Measurement method

The 'characteristic curve' diagram shows the pressure increase p_{fs} in in. wg as a function of the volume flow rate q_{v1} in CFM.

Technical delivery conditions

The specified performance data applies to the rated data and air performance curves at the rated voltage. The colored lines in the characteristic map represents the optimum reliable operating range for axial fans.

Fan test-bench

MAXventowlet:

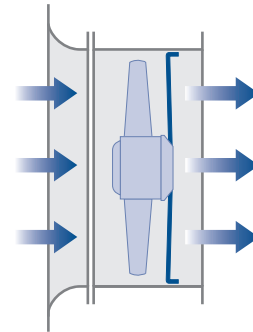
The fan characteristic curves are determined on a combined ventilation and sound test-bench.

The characteristic curves are measured in compliance with **DIN EN ISO 5801** and **AMCA 210-99**. The sound power levels are measured in compliance with **DIN EN ISO 3745** and **ISO 13347-3**, using the enveloping surface measuring method.

The figure below shows an example of the measuring setup. The fan is attached to the measuring chamber with free inlet and free exhaust (installation type A in compliance with **DIN EN ISO 5801** and **AMCA 210-99**).

Air density

The air temperature and humidity are conditioned during the measurement using heat exchangers and are largely kept constant. The characteristic curves shown are relative to the measuring density. The mean measuring density is 3.52 lbs/m³.

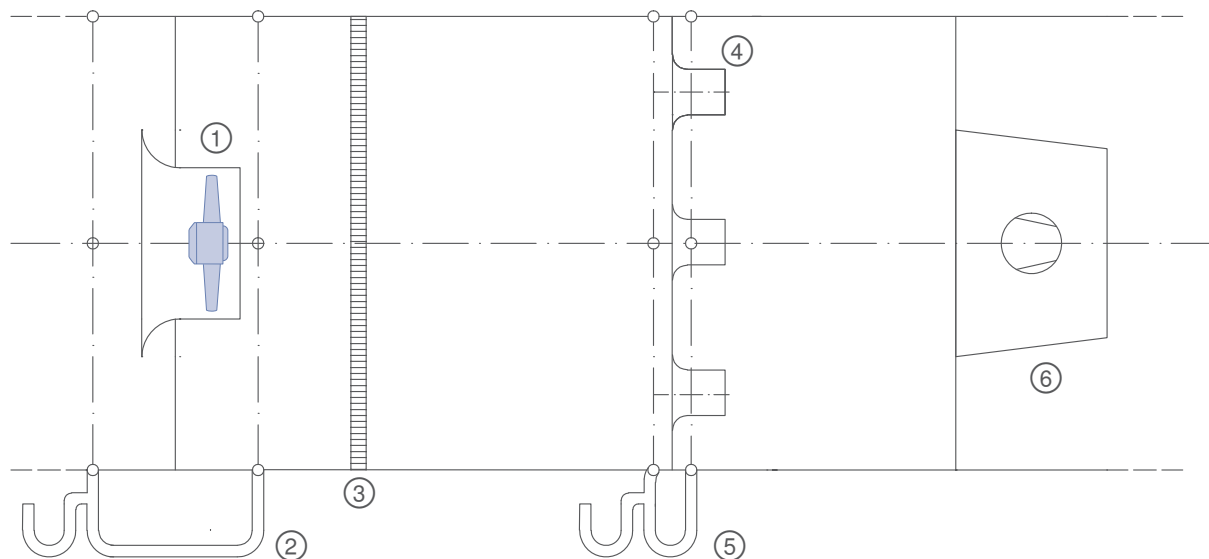


KL-1290a

Installation type A according to ISO 5801



Technology Centre (InVent)



- ① Test fan
- ② p_{fs}
- ③ Flow straightener
- ④ Nozzles
- ⑤ Δp Differential pressure
- ⑥ Auxiliary fan

Aerodynamics and Acoustics

Noise level data

Unless otherwise indicated, this catalogue specifies the suction side, A-evaluated sound power levels L_{WA5} . The sound power levels are determined by using the enveloping surface method in compliance with **ISO 13347-3**, accuracy class **1** and/or **DIN EN ISO 3745**.

This is done by measuring the sound pressure level L_p of the individual third-octave bands at 12 points on the enveloping surface (Fig. Ia). The measured sound pressure levels for the third-octave bands are initially used to calculate the sound power level for the third-octave bands and then the suction side sound power level L_{W5} . To do this, the fans are installed with a free inlet (from the measuring chamber) and free exhaust (into the surrounding area). The standard measurements are carried out without the need for additional parts, e.g. guard grille. The measuring equipment used complies with **DIN EN 61672**.

Because of the different weighting of the third-octave sound power level, the A-evaluation, which is typically carried out, takes into account the subjective nature of human sound perception. The A-tested sound power level is the standard variable used to assess the sound characteristics of technical equipment.

Calculation of pressure side sound power level and total sound power level

For axial fans, the pressure side sound power level is approximately equal to the suction side level. The total sound power level is calculated by adding up the power from the sound power levels of both the suction and the pressure side (see **DIN 45 635 Part 1, Appendix F, DIN EN ISO 3745**). Thus, it is approximately 3 dB higher than the suction side sound power level specified in the catalogue.

Determination of total sound power level during the interaction of several sound sources

The total sound power level of several individual sound sources operating concurrently is calculated by adding the power of the individual levels in compliance with **DIN EN ISO 3745**. This equation is the basis for the diagrams in Fig. II and III.

To add up several sound sources with the same level, please see diagram (Fig. II) for complete level information; e.g. 6 identical sound sources operating concurrently results in a total level that is approx. 8 dB higher.

The total sound power level of two sound sources with different levels can be seen in diagram Fig. III. For example, two sound sources whose sound power levels differ by 4 dB produce a total sound power level that is around 1.5 dB higher than that of the louder sound source.

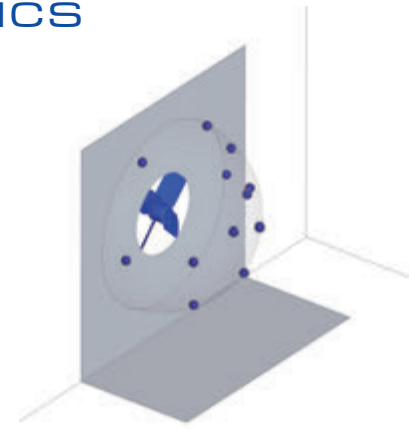


Fig. Ia: Position of microphones

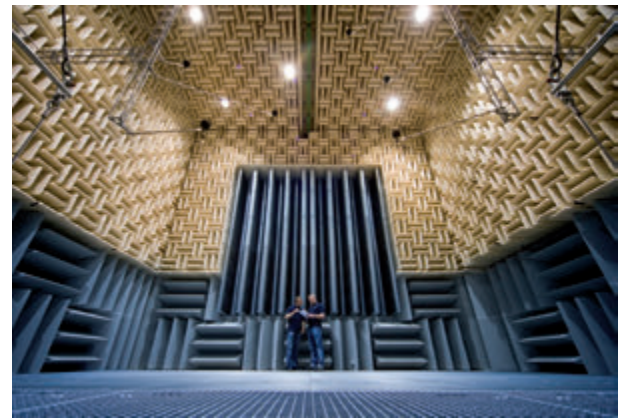


Fig. Ib: Fan test bench

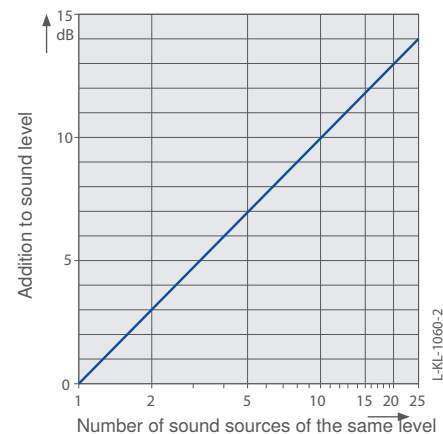


Fig. II: Addition of several sound sources

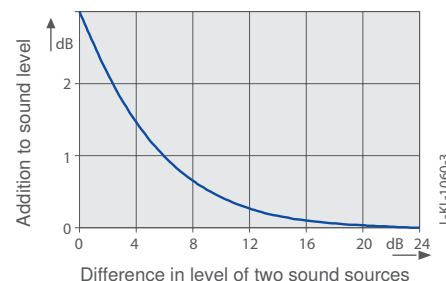


Fig. III: Sound sources of different level

General notes

The information and data contained in this catalogue were composed to the best of our best ability and do not absolve the user from its duty to check the suitability of the products with respect to its intended application.

The customer is obligated to inform the supplier about general information concerning the intended use, the type of installation, the operating conditions and any other conditions that need to be taken into consideration if the order is not based on catalogue information.

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