

## It's All a Matter of TechNiQ.

NiQ: Our latest generation of energy-saving motors.

**ebm**papst

The engineer's choice



# About ebm-papst.

*As a leader in technologies for ventilation and drive engineering, ebm-papst is in demand as an engineering partner in many sectors. With over 15,000 different products, we provide the right solution for just about any challenge. Our fans and drives are reliable, quiet and energy-efficient.*



## Six reasons that make us the ideal partner:

### **Our systems expertise.**

You want the best solution for every project. The entire ventilation system must thus be considered as a whole. And that's what we do – with **motor technology** that sets standards, sophisticated **electronics** and **aerodynamic** designs – all from a single source and perfectly matched.

### **Our spirit of invention.**

We are also always able to develop customized solutions for you with our versatile team of over 600 engineers and technicians.

### **Our lead in technology.**

We are pioneers and leaders in the development of high-efficiency EC technology. Already today almost our entire product range is also available with GreenTech EC technology. The list of benefits is long: higher efficiency, low maintenance, longer service life, sound reduction, intelligent control characteristics and incomparable energy efficiency.

### **Proximity to our customers.**

ebm-papst owns 57 sales offices worldwide, of which 47 are subsidiaries with an extensive network of sales representatives and distributors. You will always have a local contact, someone who speaks your language and knows your market.

### **Our standard of quality.**

Our quality management is uncompromising, at every step in every process. This is underscored by our certification according to international standards including DIN EN ISO 9001, ISO/TS 16949-2 and DIN EN ISO 14001.

### **Our sustainable approach.**

Assuming responsibility for the environment, for our employees and for society is an integral part of our corporate philosophy. We develop products with an eye to maximum environmental compatibility, in particular resource-preserving production methods. We promote environmental awareness among our young staff and are actively involved in sporting, cultural activities and education. That's what makes us a leading company – and an ideal partner for you.

## Even more intelligent, economical and convincing.

Conventional shaded-pole motors have long since become a thing of the past as a choice of motor for condensers and evaporators. Thanks to the use of high-efficiency GreenTech EC technology our successful iQ motor range is far more intelligent, energy-saving and ecological. In the latest generation, the NiQ, we have not only enhanced the existing advantages but have also added new ones.

### **A logical further step.**

The NiQ is a further development based on its predecessors, the iQ and iQ². Improved winding technology, optimized material selection and know-how transferred from the heating technology sector have resulted in even better product features in many areas. With the plastic used, the motor qualifies for approval in applications involving incidental contact with foodstuffs (for example in open vegetable display cases).

### **Unbeatably economical.**

When we developed the NiQ we were not just looking for a more economical solution, we wanted to achieve even more efficiency as well. The use of GreenTech EC technology produces efficiency levels up to 70 %, thus enormously reducing operating costs. In certain areas it was also possible to further optimize efficiency as compared to the iQ and iQ².

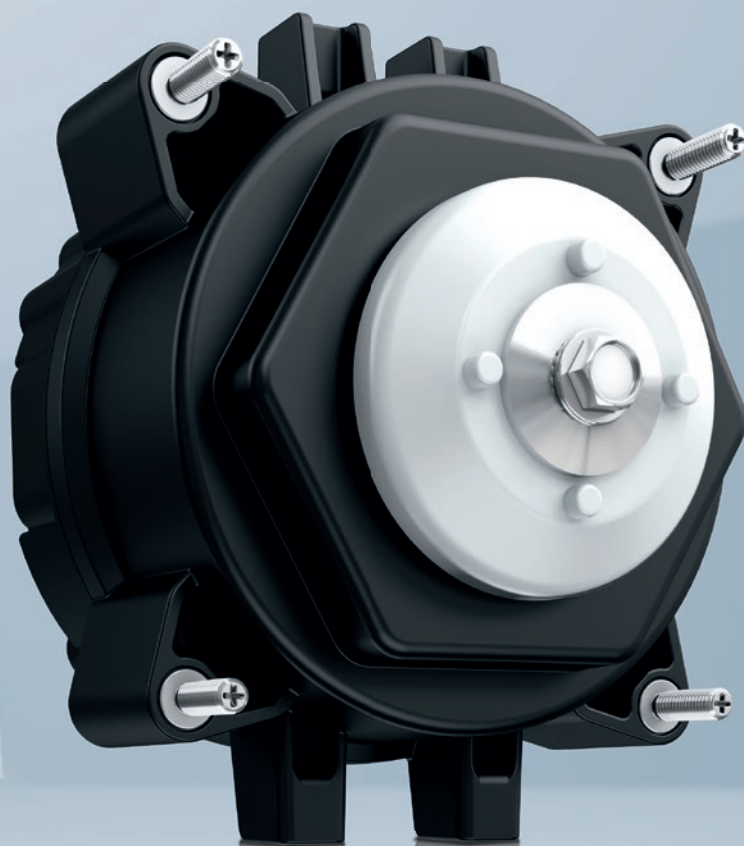
### **A perfect substitute.**

The tremendous cost savings in relation to obsolete AC technology not only make our NiQ motors the first choice for new installations – retrofitting in existing applications is also a worthwhile investment which pays for itself in no time at all. Replacing motors in older systems is a straight forward matter.





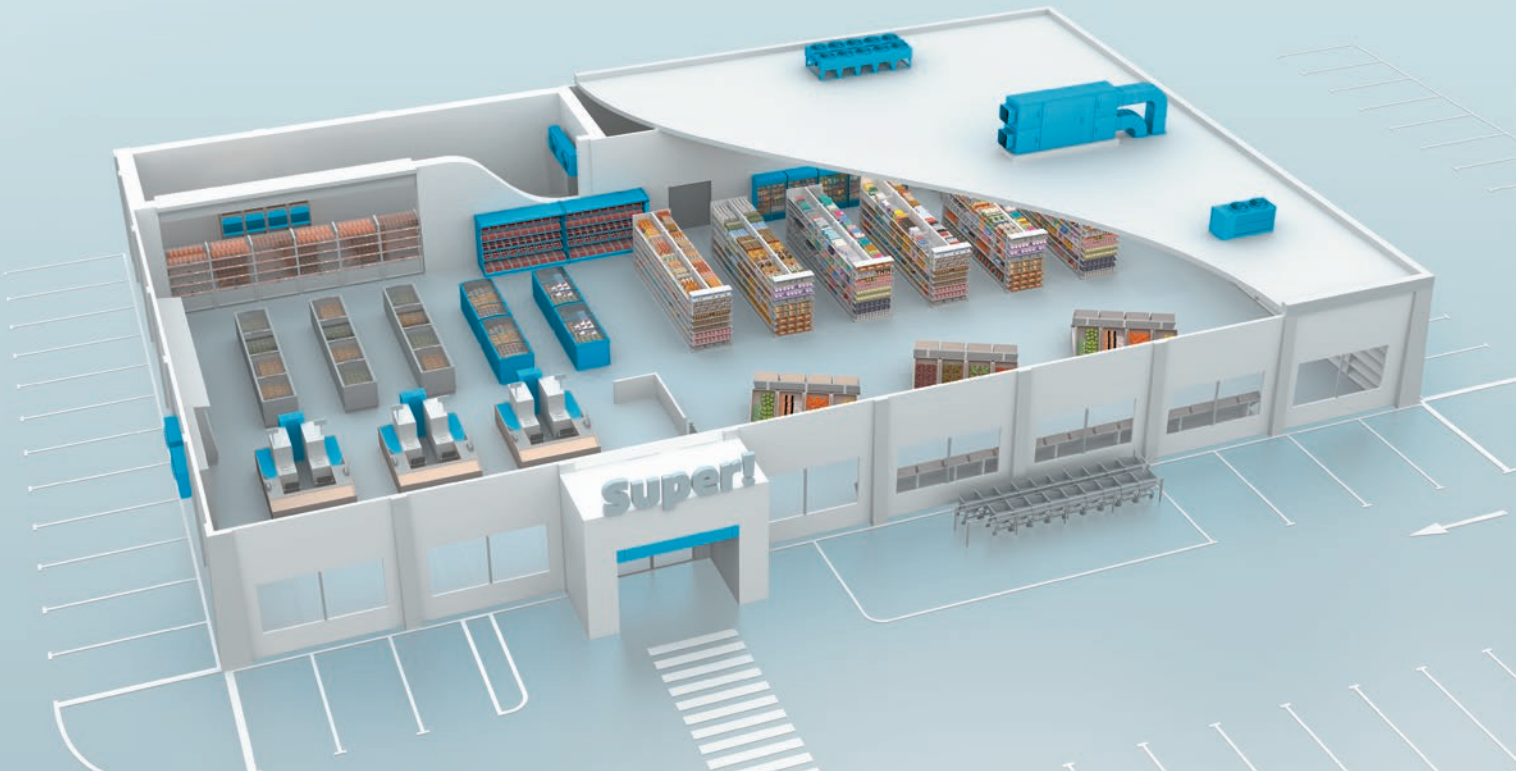
Presenting:  
The best iQ ever.



Technical data	
<b>Nominal voltage</b>	220–240 VAC, 115–127 VAC, 50–60 Hz
<b>Material</b>	Plastic housing
<b>Airflow direction</b>	Air exhaust or air intake (depending on impeller)
<b>Direction of rotation</b>	CCW (view on drive side)
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	“H”
<b>Installation position</b>	Any
<b>Mode of operation</b>	Continuous operation (S1)
<b>Bearings</b>	Maintenance-free bearing system
<b>Motor protection</b>	By electronics
<b>Electrical hook-up</b>	Power cable
<b>Protection class</b>	II (without grounding conductor)
<b>Approvals</b>	UL, VDE as per DIN EN 60335-2-24, DIN EN 60335-2-89, DIN EN 60075-15
<b>Fitting of attachments</b>	Guard grille and wall ring are fitted to the projecting thread ends on the drive side
<b>Mounting of axial impeller</b>	Impeller is mounted on the motor shaft by using a plastic hub and an M4 bolt
<b>Ambient temperature</b>	–40 °C to +50 °C

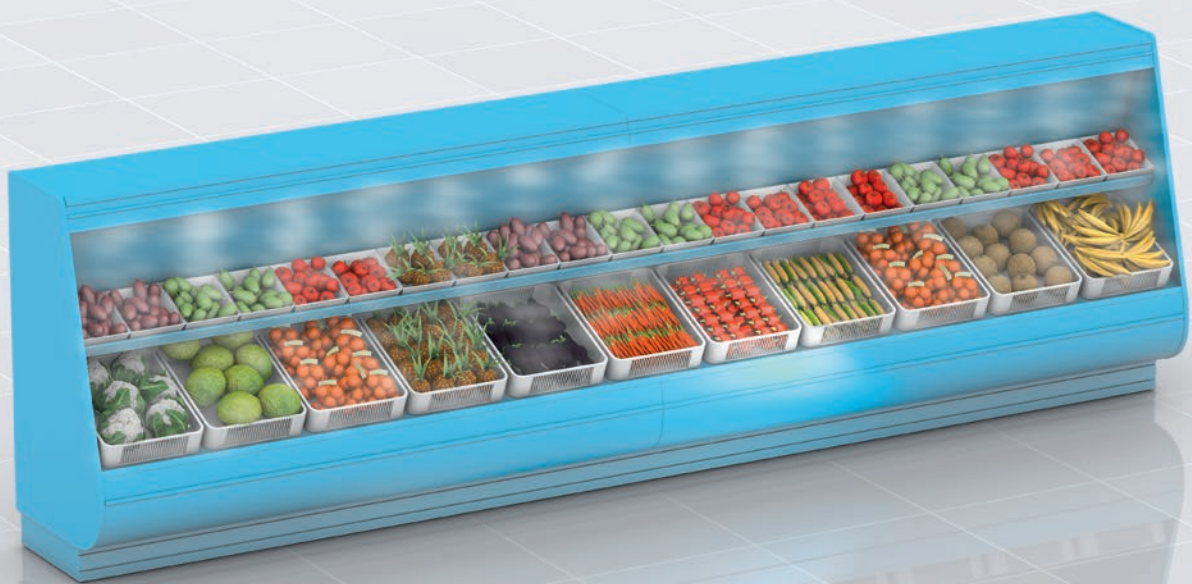
### Refrigeration applications.

Nowadays it is more important than ever to save energy. Fans offer great potential for doing so, as they are often in operation for long periods – e.g. in refrigerated display cases and bottle coolers. Our successful iQ motor is already used by a number of well-known supermarket chains. The NiQ is the logical next step – and as such even more economical and efficient than its predecessor.

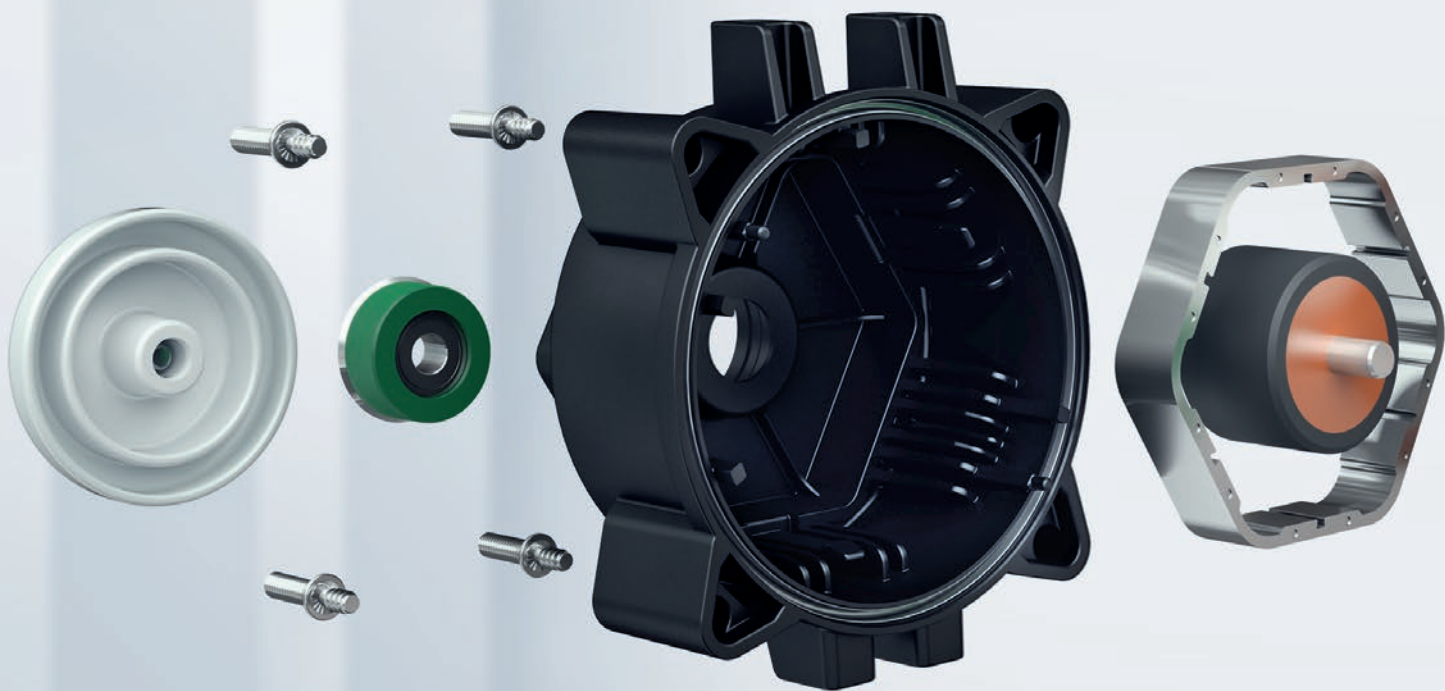


### Suitable for incidental contact with foodstuffs.

The plastic used for the NiQ meets the requirements of the EU regulation 10/2011/EU as well as the framework regulation 1935/2004/EC and the regulation 2023/2006/EC. It also satisfies the demands of the US Food and Drug Administration (FDA). The motor therefore qualifies for approval in areas involving incidental contact with foodstuffs, such as in supermarket open vegetable display cases.



## It's All a Matter of TechNiQ.



+ Same accessories as for Q, iQ and iQ<sup>2</sup> motors

+ Optimized design for greater economy

+ Even more ecological and sustainable through the use of plastic

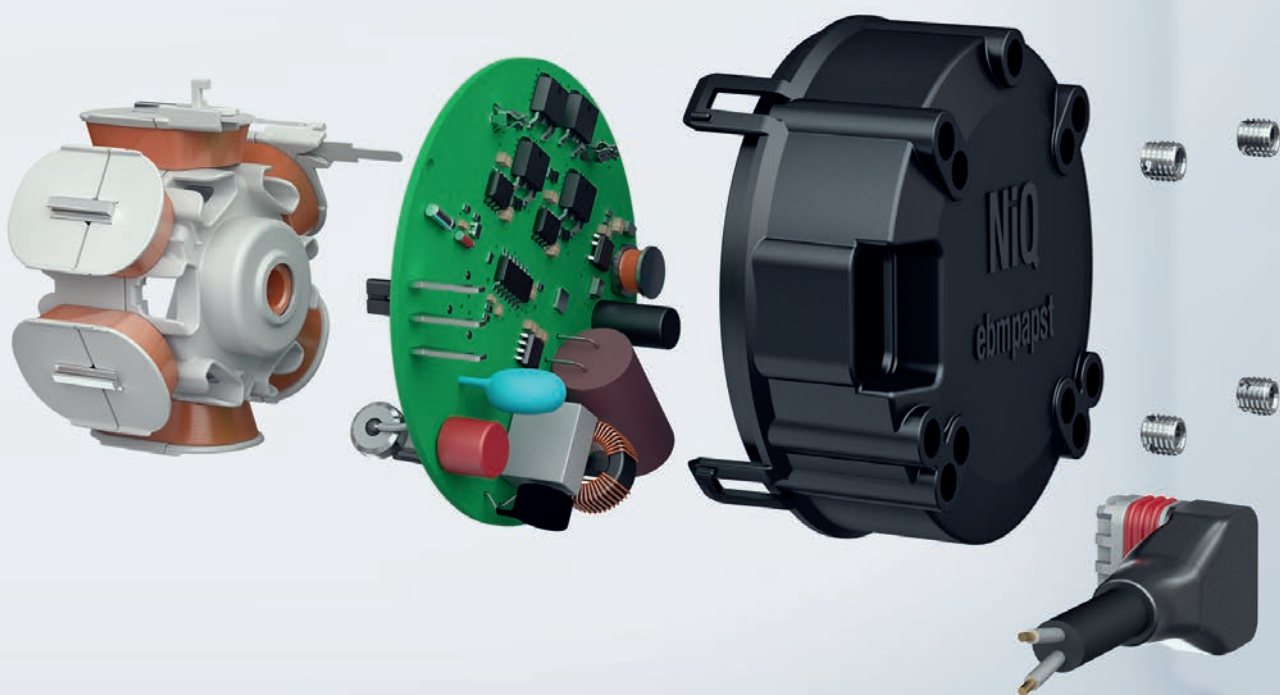
+ Constant speed even with fluctuating voltage



+ Simple replacement of AC with EC through the use of identical mechanical interfaces

+ Long service life thanks to maintenance-free bearing system

+ Extremely smooth operation thanks to low-friction bearings



+ One concept can replace comparable AC motors of several sizes

+ Even greater efficiency than iQ and iQ<sup>2</sup>

+ Enhanced thermal characteristics thanks to new winding technology

+ Intelligent electronics with speed control, overload and locked-rotor protection

+ Plug-in cable for flexibility

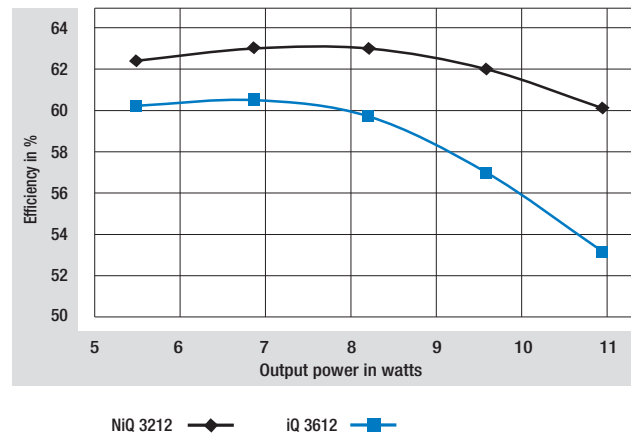
## The most economical iQ ever.

### 70% lower power consumption:

A typical supermarket uses 200 AC fans with 200 mm blades (28° pitch) in its refrigerated units. Replacing the shaded-pole motors with an iQ or NiQ motor reduces energy consumption by 39 megawatt-hours. That corresponds to an annual saving of more than 5,000 €\* and avoids the production of approximately 23 tonnes of CO<sub>2</sub>.

\* 0.13 €/kWh

### Comparison of efficiency between NiQ 3212 and iQ 3612



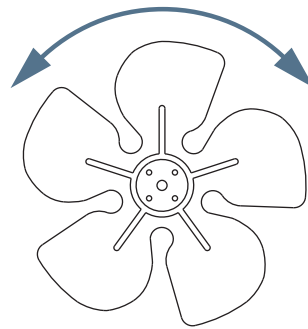


## NiQ modes of operation.

*Additional functions are available to make the NiQ even smarter and refrigeration applications even more efficient. Choose the feature to suit your application.*

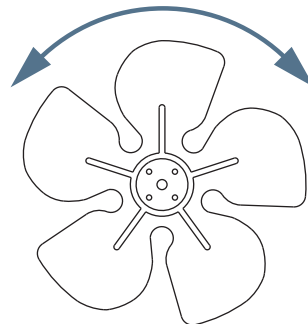
### NiQ reverse on start.

The NiQ reverse on start automatically runs in reverse for a pre-programmed time on starting. An important function for refrigeration devices, as it blows the accumulated dust out of the heat exchanger of the condenser – thus ensuring constant high cooling capacity.



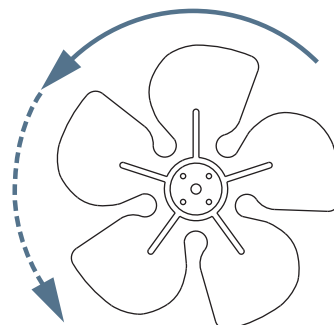
### NiQ reverse on demand.

With the NiQ reverse on demand it is possible to define the time and duration of reverse operation as required. This means that the evaporator defrost cycle can be used to remove dust from the heat exchanger of the condenser for example.



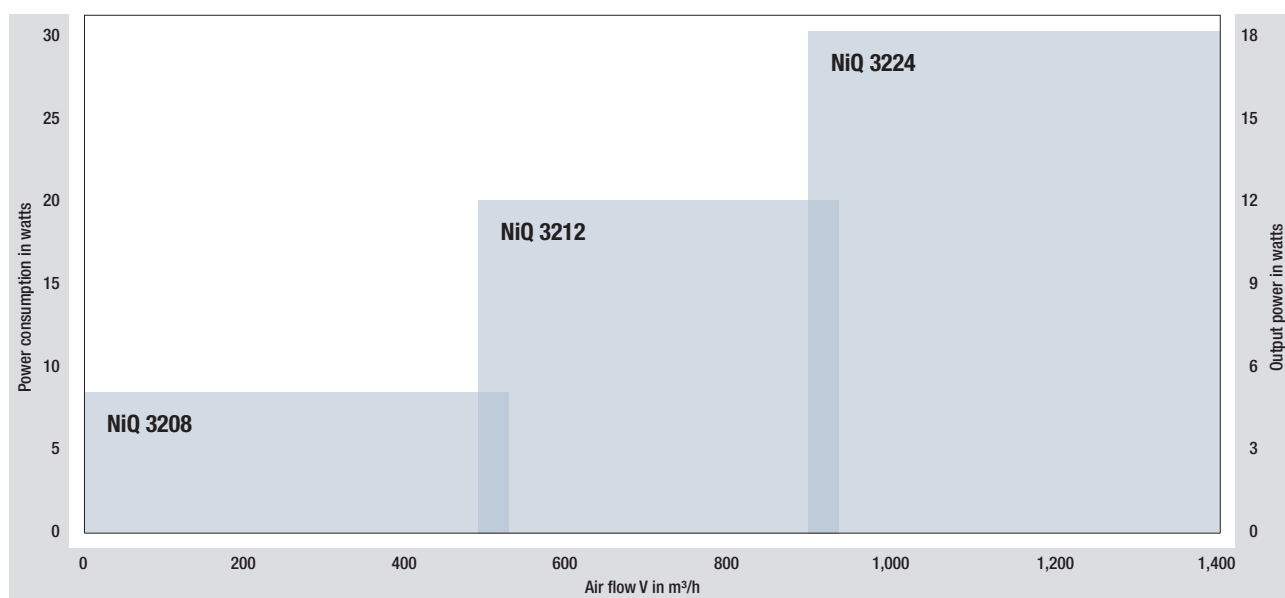
### NiQ two speeds.

The particular feature of the NiQ two speeds is that it is supplied with two factory-programmed speed levels. This makes it possible to run the application in different day and night modes for even greater energy savings.

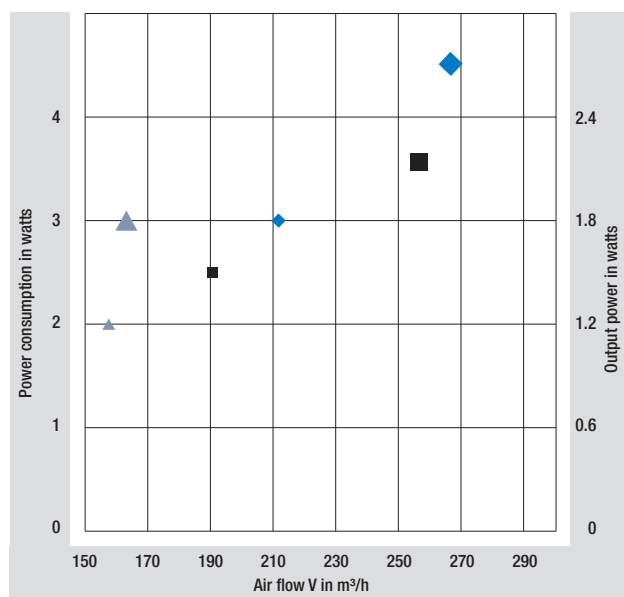


# Technical data.

## Overview of power ranges for NiQ 3208, NiQ 3212, NiQ 3224

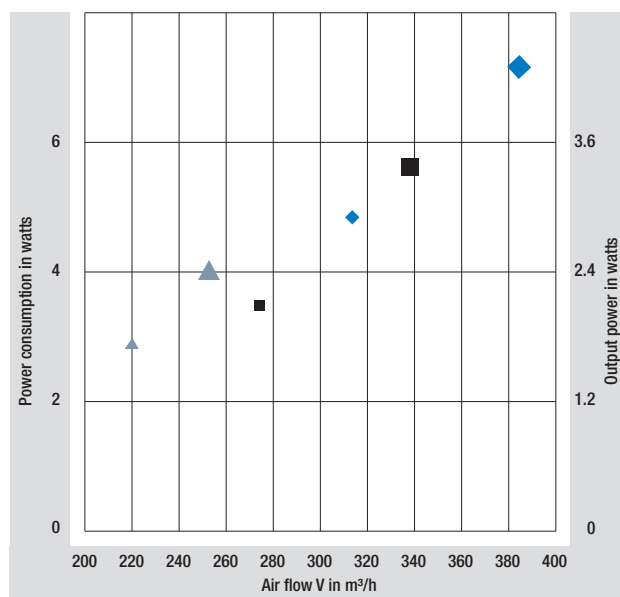


## Technical data axial blade Ø 154 mm



1,300 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°  
 1,550 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°

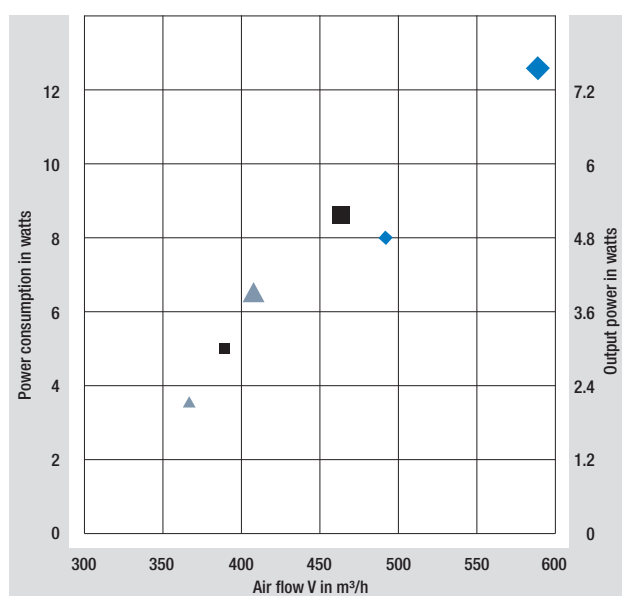
## Technical data axial blade Ø 172 mm



1,300 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°  
 1,550 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°

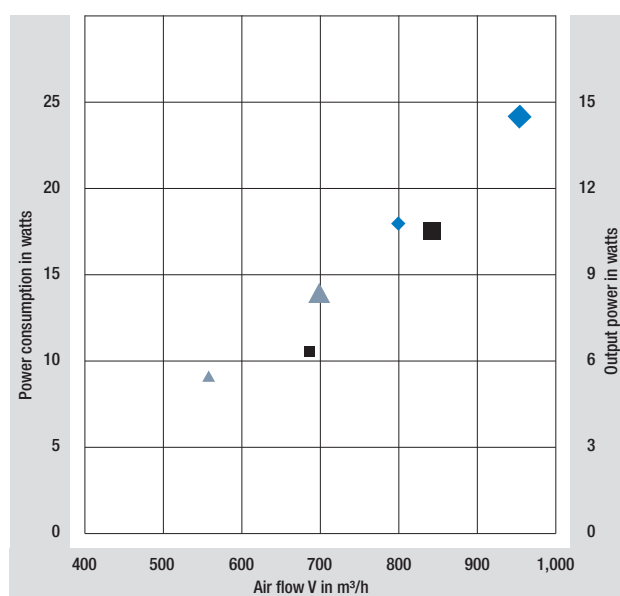
# Technical data.

Technical data axial blade Ø 200 mm



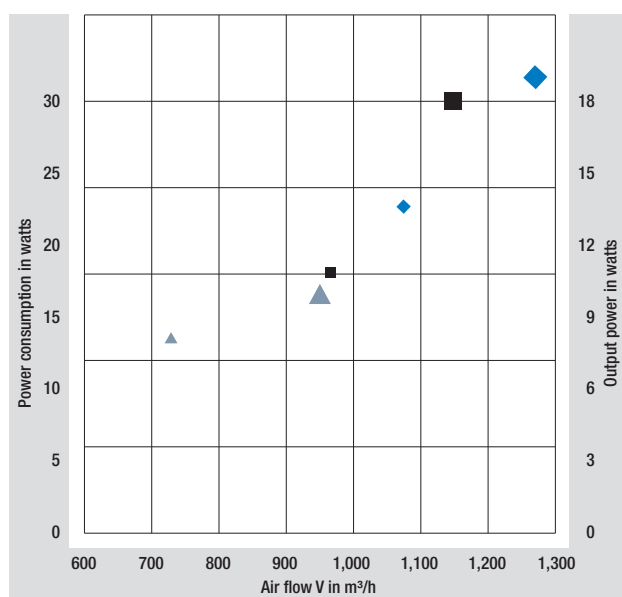
1,300 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°  
1,550 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°

Technical data axial blade Ø 230 mm



1,300 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°  
1,550 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°

Technical data axial blade Ø 254 mm

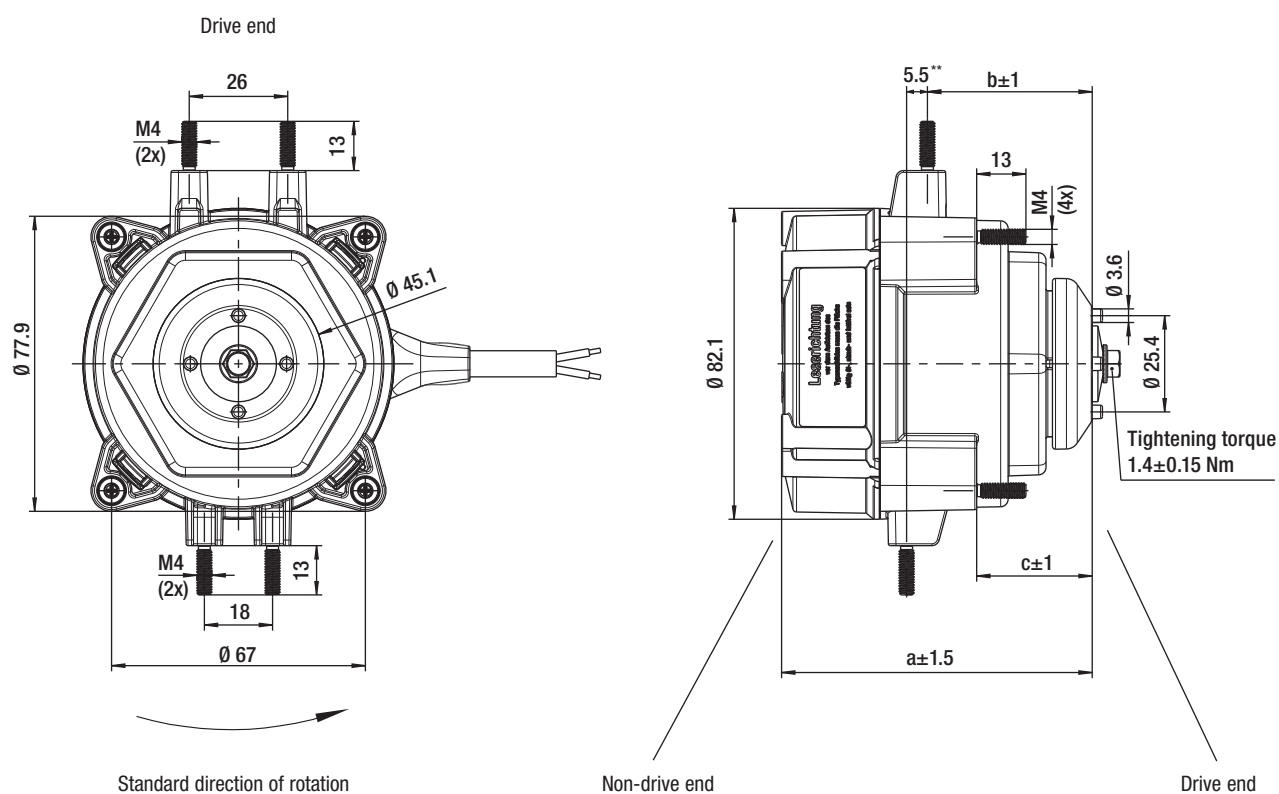


1,300 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°  
1,550 rpm: ▲ pitch 22° ■ pitch 28° ◆ pitch 34°



# Technical data.

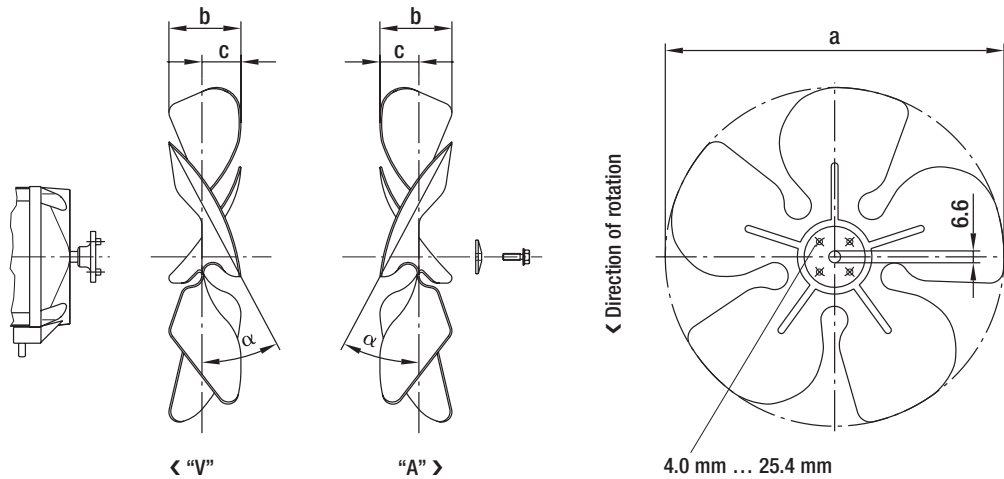
## Standard version



Technical data		Dimensions in mm		
Typ	Weight kg*	a	b	c
NiQ 3208	0.33	74.0	43.5	30.5
NiQ 3212	0.41	82.0	43.5	30.5
NiQ 3224	0.55	91.5	43.5	38.5

\* without Cable    \*\* NiQ 3224: 10.5  
Data is subject to change without notice at ebm-papst discretion.

# Axial impellers.

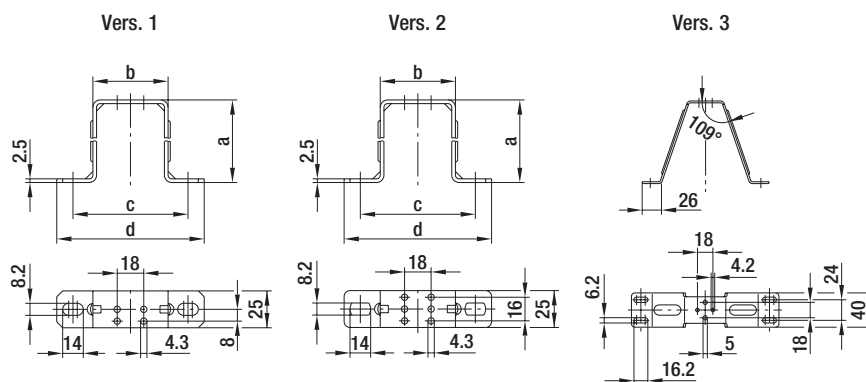


## Axial impellers

Part no. for air flow direction "V"	Part no. for air flow direction "A"	Blade angle $\alpha$	a	b	c
27453.34001	27453.34201	$22^\circ \pm 1^\circ 30'$	154	27.5	14.0
27453.34002	27453.34202	$28^\circ \pm 1^\circ 30'$	154	32.0	16.0
27453.34003	27453.34203	$34^\circ \pm 1^\circ 30'$	154	37.0	18.0
27453.34004	27453.34204	$22^\circ \pm 1^\circ 30'$	172	31.0	14.5
27453.34005	27453.34205	$28^\circ \pm 1^\circ 30'$	172	36.0	17.0
27453.34006	27453.34206	$34^\circ \pm 1^\circ 30'$	172	42.0	21.0
27453.34007	27453.34207	$22^\circ \pm 1^\circ 30'$	200	32.0	15.5
27453.34008	27453.34208	$28^\circ \pm 1^\circ 30'$	200	37.5	18.0
27453.34009	27453.34209	$34^\circ \pm 1^\circ 30'$	200	45.0	22.0
27453.34010	27453.34210	$22^\circ \pm 1^\circ 30'$	230	35.0	17.5
27453.34011	27453.34211	$28^\circ \pm 1^\circ 30'$	230	43.0	21.5
27453.34012	27453.34212	$34^\circ \pm 1^\circ 30'$	230	50.0	24.0
27453.34013	27453.34213	$22^\circ \pm 1^\circ 30'$	254	37.0	19.0
27453.34014	27453.34214	$28^\circ \pm 1^\circ 30'$	254	45.0	23.5
27453.34015	27453.34215	$34^\circ \pm 1^\circ 30'$	254	52.0	26.0
27453.34016	27453.34216	$22^\circ \pm 1^\circ 30'$	300	43.0	21.5
27453.34017	27453.34217	$28^\circ \pm 1^\circ 30'$	300	53.5	26.5
27453.34018	27453.34218	$34^\circ \pm 1^\circ 30'$	300	61.0	30.0

Data is subject to change without notice at ebm-papst discretion.

# Mounting brackets.

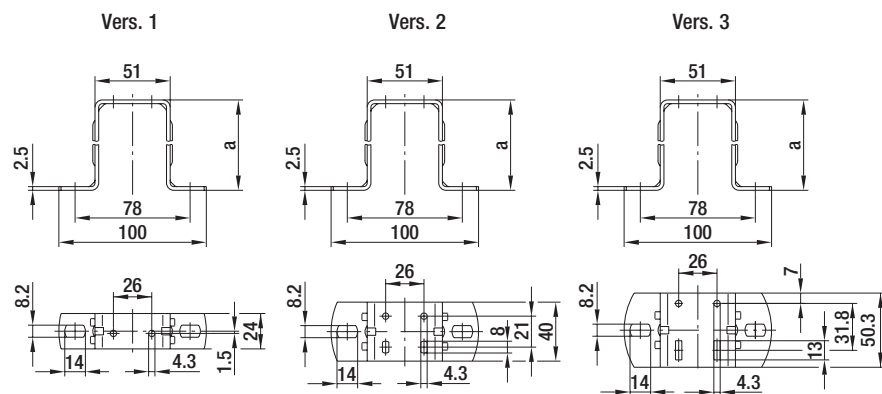


**Material:** Sheet steel, galvanized and blue chromated

## Mounting bracket – foot measure 18 mm (multi-function version)

Part no.	Fan size	Vers.	a	b	c	d
27452.71002	172	1	56.0	51	78	100
27452.71005	200	1	67.0	51	78	100
27452.71003	230	1	74.5	51	78	100
27452.71004	254	2	85.5	51	78	100
27452.71001	300	3	112.0	—	150	172

Data is subject to change without notice at ebm-papst discretion.



**Material:** Sheet steel, galvanized and blue chromated

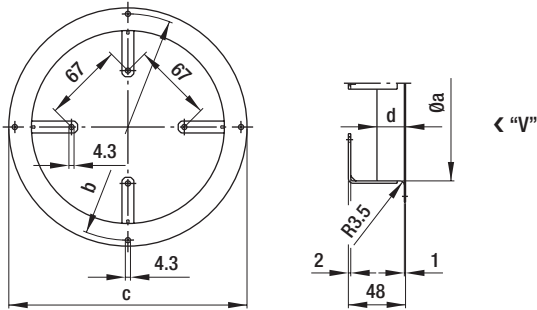
## Mounting bracket – foot measure 26 mm (standard or multi-function version)

Part no.	Fan size	Vers.	a
27452.71201	154	1	39
27452.71202	172	1	52
27452.71203	200	1	72
	230	1	72
27452.71204	254	1	84
27452.71205	254	2	84
27452.71206	300	2	109
27452.71207	300	3	109

Data is subject to change without notice at ebm-papst discretion.



# Fan housings.

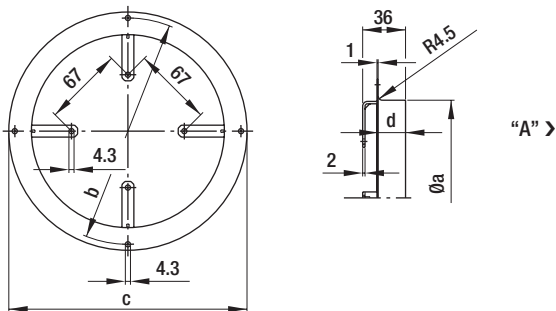


**Material:** Sheet steel,  
gray plastic-coated

**Fan housings, air flow direction "V"**

Part no. (sheet steel)	Part no. (plastic)	Fan size	Max. blade angle $\alpha$	a	b	c	d	d (plastic)
27452.70501	27452.70802	154	34°	164	190	200	24	26
27452.70502	27452.70803	172	34°	182	208	223	24	26
27452.70503	27452.70804	200	34°	210	236	246	24	26
27452.70504	—	230	28°	240	266	276	24	—
27452.70505	27452.70805	254	28°	264	290	300	24	26
27452.70506	27452.70806	300	22°	308	344	356	24	26

Data is subject to change without notice at ebm-papst discretion.



**Material:** Sheet steel,  
gray plastic-coated

**Fan housings, air flow direction "A"**

Part no. (sheet steel)	Part no. (plastic)	Fan size	Max. blade angle $\alpha$	a	b	c	d	d (plastic)
27452.70701	—	154	34°	162	190	200	24	—
27452.70702	—	172	34°	180	208	223	24	—
27452.70703	—	200	28°	208	236	246	24	—
27452.70704	—	230	28°	238	266	276	24	—
27452.70705	27452.70807	254	28°	262	290	300	24	26
27452.70706	—	300	22°	308	344	356	24	—

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