From Q-motor to iQ-motor.

Customers from all branches of industry – household appliance, heating engineering, cooling and refrigeration technology to name but a few – place their trust in the new iQ-motor, a simple yet ingenious drive and fan solution made by ebm-papst! Quadratic, practical and considerably more intelligent and efficient than conventional shaded-pole motors, the iQ-motor has raised the bar among “standard” motors. If you require more information, please do not hesitate to contact us. We will be happy to help.

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Quadratic. Practical. Intelligent.

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The engineer’s choice

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Same on the outside – better on the inside!

Typical of ebm-papst: we have taken a standard motor and a principle that for decades has enjoyed success in countless applications and made it more intelligent, energy-efficient and environmentally friendly! Features of the shaded-pole motor (Q-motor) such as outstanding running smoothness, low maintenance and a long service life have made asynchronous motors a standard component in small axial fans. Our objective was to significantly improve the inner mechanism of the Q-motor by incorporating EC technology – while keeping the exterior design identical. Conventional Q-motors can now be replaced with the new "iQ"-motors if the fans fail or if a more energy-efficient solution is required.

Simple to replace, extremely efficient

During the development of the iQ-motor, our engineers took giant strides towards reducing energy costs and fulfilling environmental protection requirements. "Integrated" EC technology has significantly increased the overall standard of motor technology: the new iQ-motors achieve greater levels of efficiency and pay for themselves within a very short period due to the enormous energy savings.

Example:

40 fans with an impeller diameter of 200 mm and 34° inclination are installed in a small supermarket. The annual savings potential of iQ-motors compared to conventional shaded-pole motors:

Energy savings: **70% = 7.5 MWh**
Savings for the environment: **4.4 tonnes CO_2**
Cost savings: **800.00 €**
at an assumed electricity cost of 10.7 Eurocent/kWh

The process of converting from a Q-motor to the new technology is extremely uncomplicated because the exterior design is identical. Axial impellers with diameters of 154 – 254 mm are mounted to the iQ-motor in the same way. The same applies to the mounting flange, the wall ring and the guard grille.

A new standard for countless applications

New ebm-papst iQ-motors have a maximum power output of 10 watts and are suitable for the following applications:

– Pellet ovens
– Vending machines
– Compressor cooling systems
– Underfloor convector heaters
– Refrigerated display cases
– General condenser applications such as bottle coolers
– Industrial use (air cooling and transport)

General overview of iQ-motor data

Material:	Die-cast aluminum housing	**Electrical connection:**	Mains cable
Conveying direction:	"V" and "A" (depending on axial impeller used)	**Protection class:**	I (II possible)
Direction of rotation:	Anticlockwise, viewing the shaft end	**Approvals:**	VDE and UL in progress
System of protection:	IP42	**Mounting attachment parts:**	Guard grille and wall ring are attached to the projecting thread ends on the A side
Insulation class:	"F"		
Mounting position:	Any		
Mode of operation:	Continuous operation (S1)	**Axial impeller attachment:**	A plastic adapter with catching peg and M4 screw are used to secure the impeller on the motor shaft
Bearings:	Maintenance-free ball bearings		
Motor protection:	Protected by electronics		

Technical data	Voltage	Frequency	Speed	Input capacity	Temperature	Weight
Motor	**Volt**	**Hz**	**rpm**	**Watt**	**°C**	**kg**
iQ-Motor	115 or 230	50/60	1,300	2 – 24	– 30 to + 40	0.6

iQ-motor combined with different axial impellers (speed 1,300 rpm)	Air flow	Motor power consumption	Air flow	Motor power consumption	Air flow	Motor power consumption
mm	**m³/h***	**W**	**m³/h***	**W**	**m³/h***	**W**
Impeller diameter	Blade pitch 22 degrees		Blade pitch 28 degrees		Blade pitch 34 degrees	
154	150	2.4	210	2.9	235	3.2
172	220	3	300	3.8	340	5
200	315	3.5	440	6	515	9.4
230	485	9.5	720	15	800	24
254	650	15	–	–	–	–

*free air flow with wall ring