

Fans for *oil-cooled transformers.*

Full power for transformer cooling.

ebmpapst

the engineer's choice



About ebm-papst.

ebm-papst is a leader in ventilation and drive engineering technology and a much sought-after engineering partner in many industries. With around 20,000 different products, we have the perfect solution for practically every requirement. We believe the consistent further development of our highly-efficient GreenTech EC technology provides our customers with the best opportunities for the future in industrial digitization. With GreenIntelligence, ebm-papst already offers intelligent networked complete solutions that are unique anywhere in the world today.

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Six reasons that make us the ideal partner:

Our systems expertise: as experts in advanced motor technology, electronics and aerodynamics, we provide system solutions from a single source.

Our spirit of invention: our 600 engineers and technicians will develop a solution that precisely fits your needs.

Our lead in technology: with our EC technology and GreenIntelligence, we combine the highest energy efficiency with the advantages of IoT and digital networking.

Closeness to our customers: at 49 sales offices worldwide.

Our standard of quality: our quality management is uncompromising, at every step in every process.

Our sustainable approach: we assume responsibility with our energy-saving products, environmentally-friendly processes, and social commitment.

GreenIntelligence. *Making Engineers Happy.*



Why do our customers look so happy? Because when it comes to the Internet of Things and the digital transformation, we provide them with a clear competitive edge with GreenIntelligence for intelligent control and interconnection of fans, drives and systems to make applications more powerful, processes more efficient, businesses more successful and their customers more satisfied.

For **industrial ventilation technology**, solutions are in demand that ensure top performance and operational reliability in every situation. GreenIntelligence gives you robust fan solutions with intelligent networking capabilities that provide reliable performance data and extensive control and monitoring functions. They ensure high levels of efficiency and system availability while guaranteeing maximum data security.

This is how much GreenIntelligence we put into our transformer cooling fans:

- Demand-driven control of the system
- Closed control loop in the system
- Easy condition monitoring



Pablo improves the performance of his ventilation systems even when they are already in operation.

Performance in perfection.

Transformer cooling from ebm-papst.

Transformers are increasingly installed in the vicinity of residential areas, where strict requirements related to noise apply. In order not to disturb residents, noise must be reduced to a minimum, especially at night. Fans for transformer cooling must therefore not only be robust and efficient, but also quiet and variable.

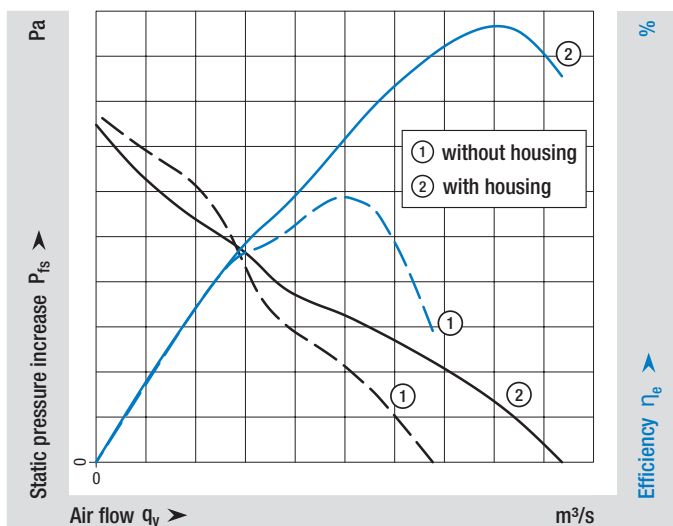
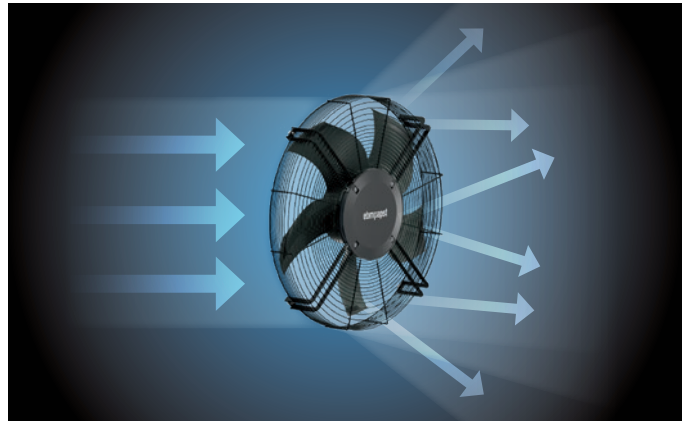
This is where fans featuring EC technology offer a significant advantage: They are infinitely variable. During the day, the fans, and the transformer, can work at full power, while at night when there is less demand they only operate at partial load.

The result is a substantial reduction in power consumption and noise, while service life is significantly extended.

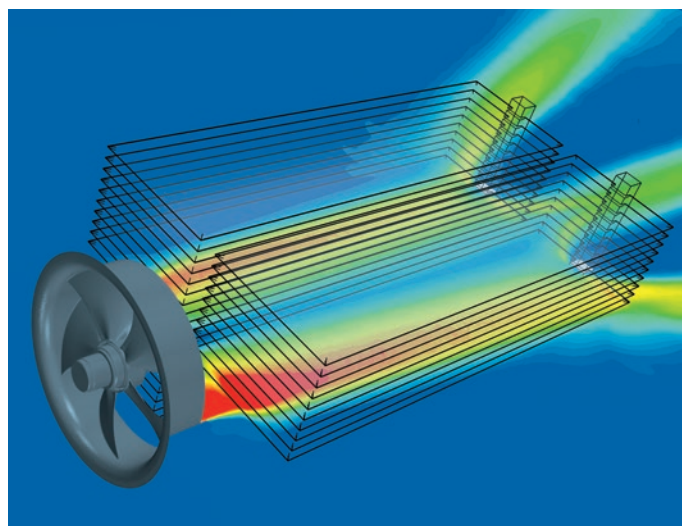
Moreover, installing the axial fan in a housing significantly increases the air performance in the working area, because the air arrives exactly where it is needed.

Everything you need for your transformer cooling.

The fans' design is based on the requirements of the EN 50216-12 series of European standards, which stipulates fittings for power transformers – fans in particular. Their guard grills provide contact protection as per DIN EN ISO 13857 and OSHA. The fan housings are made of hot-dip galvanized sheet steel. On the outlet side, they feature an integrated circumferential flange that enables easy, direct attachment to the application.



The ebm-papst solution offers significantly better air performance than fans with no housing, resulting in much higher system efficiency.



The CFD simulation shows the advantages of the fan housing.

Innovative down to the last bolt.

Fan housing

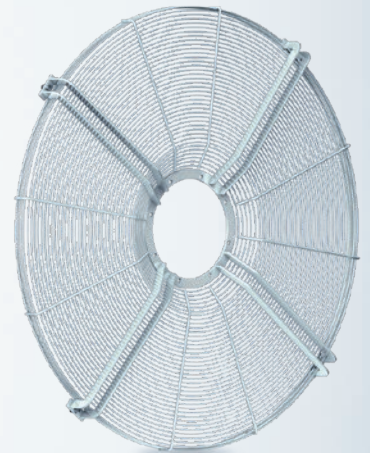
- + High efficiency**
 - Integrated nozzle on intake side
- + Rugged design**
 - Hot-dip galvanized sheet steel
 - Durable and resistant to salt spray as per DIN EN ISO 12944, class C5M (color RAL 9006)
- + Safe handling during transportation and assembly**
 - Motor system and impeller in housing
 - Direct attachment to application
- + Flexible installation**
 - Installation with horizontal and vertical motor shaft
 - Installation on intake and outlet sides
- + Rating label**
 - As per DIN EN 50216-12

Impeller

- + High efficiency**
 - More efficient than conventional fans thanks to profiled blade geometry and winglets
- + Quiet operation**
 - Aerodynamically optimized shape for significant noise reduction compared with conventional fans
- + Innovative materials**
 - Blades made of glass fiber reinforced composite material
 - Core of corrosion-resistant aluminum structure
 - UV-resistant

Intake-side guard grill

- + Safety**
 - DIN EN ISO 13857/OSHA contact protection
- + Rugged design**
 - Durable and resistant to salt spray as per DIN EN ISO 12944, class C5M (color RAL 9006)
- + Outlet-side guard grill**
 - Available as an option



GreenTech EC motor

- + Top energy efficiency**
 - High efficiency
 - High power density
- + Long service life**
 - Extremely durable thanks to maintenance-free ball bearings and brushless commutation
- + Extremely durable**
 - IP 55 protection class for top protection against splash water
- + Unrivaled compactness**
 - An axial fan unit: Direct integration of external rotor motor into axial impeller

Electronics

- + Precision control**
 - Infinitely variable speed control with 0–10 V DC / PWM control signal or MODBUS-RTU
 - Remote maintenance and monitoring using MODBUS-RTU interface
- + Universally deployable**
 - Suitable for use with 50 and 60 Hz networks
 - Worldwide voltage range and grid forms
- + Safe operation**
 - Safety provided by integrated locked rotor and thermal overload protection
- + Simple commissioning**
 - Simple hook-up via terminal box
 - Plug & play: no adjustment effort required



Quiet, compact, and *packed with high tech.*

Our transformer cooling fans.

Nominal data	Blade dia	Nominal voltage	Frequency	Speed	Max. power consumption	Permitted ambient temperature	Max. back pressure		Free air	Sound pressure level intake side (LpA _{in})	Finger guard – pressure side
Item number	Inch	VAC	Hz	rpm	W	°C	Pa	inch H ₂ O	m ³ /s // m ³ /h // cfm	dB(A)	Item number
3 ~ EC Motor											
W3G 630-CG98-80	25	400	50 / 60	1,160	730	-40...+60	180	0.72	3.69 // 13,300 // 7,830	74	40630-2-4039
W3G 800-CU25-80	32	400	50 / 60	1,020	1,650	-40...+70	190	0.76	6.94 // 24,970 // 14,695	75	40800-2-4039
W3G 990-CU28-80	39	400	50 / 60	750	1,300	-40...+60	140	0.56	8.46 // 30,455 // 17,925	72	40990-2-4039
W3G Z50-CK15-80	49	400	50 / 60	600	1,780	-40...+60	70	0.28	12.91 // 46,490 // 27,365	72	40125-2-4039
3 ~ AC Motor											
W4D 500-CM01-80	20	230 Δ / 400 Y 277 Δ / 480 Y	50 60	1,400 1,650	530 870	-40...+65 -40...+60	140 160	0.56 0.64	2.46 // 8,865 // 5,215 2.91 // 10,475 // 6,165	73 77	40500-2-4039
W6D 630-CA01-80	25	400Δ / 400Y 480Δ / 480Y	50 60	925 Δ 1,090 Δ	575 Δ 925 Δ	-40...+65 -40...+40	85 Δ 55 Δ	0.34 0.22	3.28 // 11,795 // 6,945 3.88 // 13,980 // 8,230	71 76	40630-2-4039
W6D 630-CN09-81	25	230 Δ / 400 Y 277 Δ / 480 Y	50 60	930 1,090	480 790	-40...+60 -40...+40	110 80	0.44 0.32	2.96 // 10,645 // 6,266 3.43 // 12,235 // 7,200	68 72	40630-2-4039
W4D 630-CR01-80	25	400Δ / 400 Y	50	1,375	975	-40...+70	80	0.32	3.76 // 13,535 // 7,967	76	40630-2-4039
W6D 800-CE05-80	32	230 Δ / 400 Y 277 Δ / 480 Y	50 60	940 1,110	1,050 1,710	-40...+80 -40...+60	145 150	0.58 0.60	5.55 // 19,995 // 11,770 6.58 // 23,685 // 13,940	72 76	40800-2-4039
W6D 910-CB05-80	36	230 Δ / 400 Y 277 Δ / 480 Y	50 60	950 1,120	1,510 2,440	-40...+70 -40...+45	160 140	0.64 0.56	7.44 // 26,800 // 15,775 8.89 // 32,025 // 18,850	77 80	40910-2-4039
W8D 990-CE05-80	39	230 Δ / 400 Y 277 Δ / 480 Y	50 60	670 780	830 1,330	-40...+70 -40...+60	90 55	0.36 0.22	6.63 // 23,860 // 14,045 7.72 // 27,800 // 16,360	69 74	40990-2-4039
1 ~ Motor											
W6E 500-CJ03-81¹	20	230	50 60	915 1,015	270 390	-40...+65	70 90	0.28 0.36	1.69 // 6,100 // 3,590 1.97 // 7,085 // 4,170	61 63	40500-2-4039
W6E 630-CO01-80²	25	230	50 60	945 1,090	350 550	-40...+70 -40...+55	32 40	0.12 0.16	2.62 // 9,430 // 5,550 3.05 // 10,990 // 6,470	64 70	40630-2-4039
W3G 990-CS35-88	39	200–277	50 / 60	730	1,270	-40...+60	85	0.34	8.19 // 29,500 // 17,366	74	40990-2-4039

¹Capacitor μF 8 required ²Capacitor μF 12 required
Other colors on request.
Data sheets on request. Subject to technical changes.
Country-specific approvals, like UL, CSA, ... are available on request.



Would you like to find out more?

For more design versions, and if you have any special requests, please consult your local contact or email info1@de.embpapst.com

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the engineer's choice

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