

IP68 Fans from ebm-papst

Environmental protection of fans

ebm**papst**

The engineer's choice



About ebm-papst North America



Headquarters - Farmington, CT

- » 250,000 sq. ft.
- » 20 Regional offices
- » Acoustic testing chamber
- » Complete air testing lab on site
- » ISO 9001 and ISO 14001 Certifications
- » Distribution centers in Farmington (CT) and Toronto, Canada

With offices in major cities throughout North America, our highly-skilled and experienced team of professionals are ready to tackle your air moving challenges with solutions that meet your requirements. ebm-papst serves all markets including IT & Telecommunications, Ventilation, Air-Conditioning, Refrigeration, Gas & Heating, Household Appliances, LED, Industrial, Drive Systems, Transportation, Agriculture, Medical, and more. Our customers can always count on prompt, courteous service. Customer satisfaction is our number one priority.



Expert support when and where you need it

Knowledgeable field sales professionals are close by for face-to-face meetings. Dedicated inside sales associates fulfill all your ordering requirements. To assist you with order management, our customer service department provides automated services such as shipment notifications, reorder notifications, and invoicing.

Expert design and manufacturing

Beginning with the initial product concept, our application engineers work in tandem with customers to select the best air moving solution to suit specific goals and requirements. Once the prototype has been established, it can then be tested in our state-of-the-art airflow testing chambers, allowing for the optimization of all air moving solutions. Each chamber has been designed to meet AMCA 210 and ISO 5801 requirements. In addition to our airflow testing capabilities, ebm-papst can conduct comparative sound, temperature, and velocity tests. The electrical engineering team can design simple fan controllers for monitoring fan speed, or complex controllers and power supplies, filtering, and specific communication protocols.

Logistics and inventory management programs

We have over 90,000 sq. ft. of climate-controlled warehousing at our facilities offering real-time inventory transactions and bar-coded inventory. Inventory management programs such as Kanban, demand/pull, safety stock, consignment, and local warehousing can be customized to your needs.



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Sustainability is the center of our GreenTech philosophy.

Eco-friendliness and sustainability have always been at the core of our thoughts and actions. For decades, we have worked according to the simple but strict creed of our co-founder Gerhard Sturm: "Each new product we develop has to be better than the last one in terms of economy and ecology." GreenTech is the ultimate expression of our corporate philosophy.

The symbol of our commitment

Our company philosophy encompasses much more than designing new and more efficient fans and blowers; we put it into practice daily - in our offices and factories around the world! GreenTech symbolizes our continuous commitment, achievements, and passion to provide customers with highest quality products using modern development and production methods, responsible business practices and initiatives that benefits the user as well as the environment.

GreenTech is pro-active development.

Even in the design phase, the materials and processes we use maximize the greatest possible eco-friendliness, energy balance and – wherever possible – recyclability. We are continually improving the material components and performance of our products, as well as enhancing the air flow while decreasing noise characteristics and significantly reducing energy consumption.



GreenTech is eco-friendly production.

Our GreenTech philosophy drives our product development, upholding the most stringent energy efficiency and environmental standards. Our production processes incorporate GreenTech practices including intelligent use of industrial waste heat and groundwater cooling, photovoltaics and our own cooling and ventilation technology. Our most modern plant, consumes 91% less energy than required. From their origin to their recyclable packaging, our products contribute to the protection of the environment.

Our customers profit from this every day.

The heart of GreenTech is our EC technology. At the core of our energy-saving, motors and fans, EC technology provides up to 90% efficiency, significantly extends service life and makes our products maintenance-free. These values pay off for the environment as well as offer cost-savings for the user! All ebm-papst products feature the greatest possible connection of economy and ecology.



GreenTech means
ecologically improving
every new product.

IP68 Defined

Ingress Protection (IP) is a standard protection rating on electrical enclosures that are considered waterproof or dust proof. The importance of an IP68 rating on ebm-papst products is to ensure the highest level of protection of the electronics inside the enclosure against foreign objects and water, while also protecting the user against potentially harmful contact.

Ingress Protection at a glance

Ingress protection is the level of protection against the intrusion of solid objects, liquids, dust, and accidental contact with electrical enclosures inside a mechanical casing. This rating gives users a more detailed understanding of general terms such as waterproof or water-resistant.

The numerical digits represent conformity with the conditions outlined in the table below. For example, an electrical enclosure rated IP68 is completely protected against dust and can not be damaged or become unsafe during permanent immersion in water.

Applications and target markets

Environmentally protected cooling solutions are highly beneficial to applications within the Alternative Energy, Appliance, Commercial Refrigeration, Heating, IT/Telecom, LED/Lighting and Transportation markets. IP68 protection may be available for additional ebm-papst fan series then is listed in this brochure. Please contact our application engineers at sales@us.ebmpapst.com for more information.

IPXX Defined

IP:	Ingress Protection
First Digit:	Rating of protection against solid objects
Second Digit:	Rating of protection against liquids

IP (Ingress Protection) Rating - Code Definition

Rating	Solid Protection (first digit)	Rating	Liquid Protection (second digit)
0	No protection	0	No protection
1	Protection against objects > 50mm (hands)	1	Protection against dripping water or condensation
2	Protection against objects > 12mm (fingers)	2	Protection against water spray 15° from vertical
3	Protection against objects > 2.5mm (tools/wires)	3	Protection against water spray 60° from vertical
4	Protection against objects > 1mm (small tools)	4	Protection against water spray from all directions.
5	Protection against dust, limited ingress	5	Protection against low pressure jets of water
6	Complete protection against dust	6	Protection against high pressure water jets and heavy seas
		7	Protection against the effects of immersion (6in- 3.3ft)
		8	Protection against permanent immersion



DC axial fans

Series 600 NU 60 x 60 x 25 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

Material: Housing: Fiberglass-reinforced PBT composite

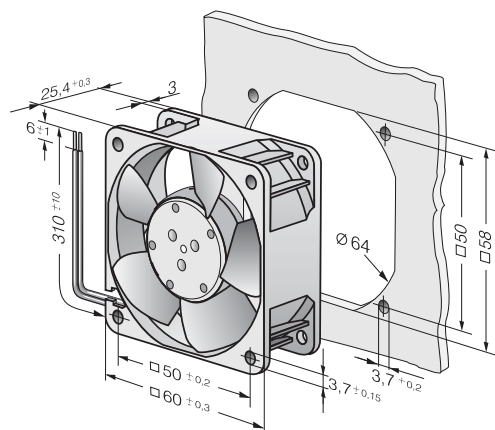
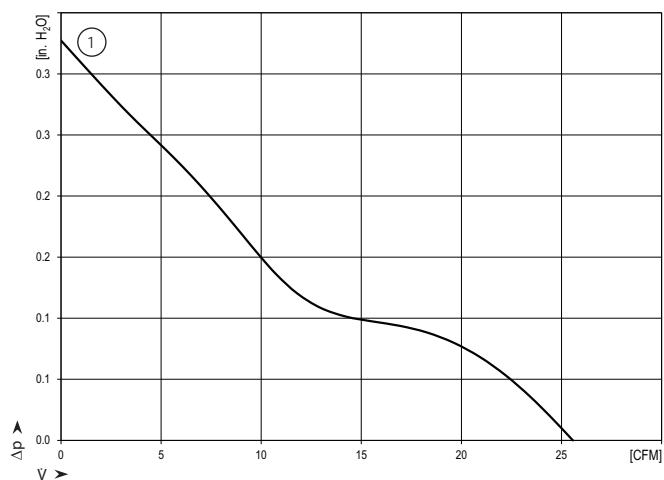
Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data

Type	Air flow CFM	Nominal voltage VDC	Voltage range VDC	Sound pressure level dB(A)	Sound power level Bel(A)	Ball bearings	Power input Watts	Speed RPM	Temperature range °C	Mass g	Ingress Protection Rating	UL Approval	Curves
614 NHU	25.3	24	18...26	37	5.3	Yes	2.1	5600	-20...70	66	IP68	Yes	1

Curves





DC axial fans

Series 630 U 60 x 60 x 25 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

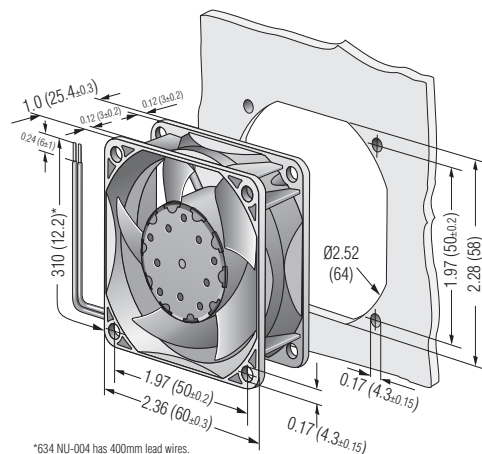
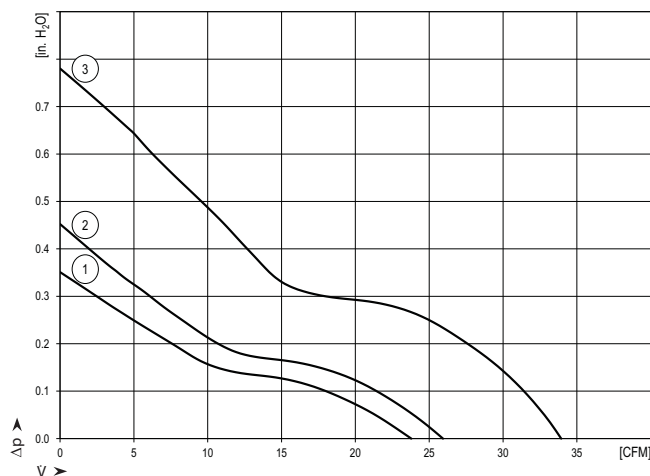
Material: Housing: Fiberglass-reinforced PBT composite

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
632 NU	23.5	12	6...15	34	5.1	Yes	1.8	5900	-20...70	70	IP68	Yes	1
634 NU-004*	23.5	24	12...30	34	5.1	Yes	1.6	5900	-20...70	70	IP68	Yes	1
632/2HPU	25.9	12	11...13	35	5.4	Yes	1.5	6300	-20...70	70	IP68	Yes	2
634 HHU	34.1	24	18...28	44	6.1	Yes	3.2	8500	-20...70	70	IP68	Yes	3

Curves



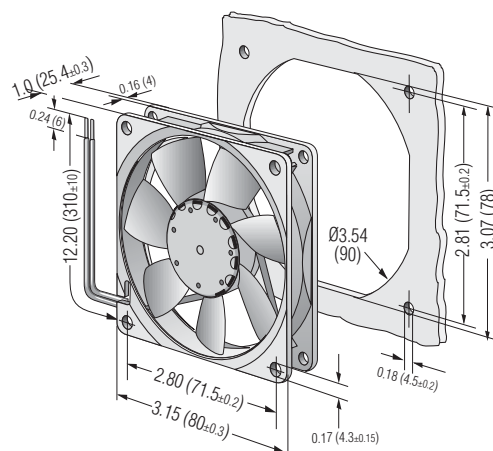


- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 24, TR 64, bared and tin-plated
- Ingress protection rating of IP68

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
8414 NMU		34.1	24	18...28	27	4.4	Yes	1.4	2600	-20...70	95	IP68	Yes	1
8412 NU		40.6	12	8...15	32	4.7	Yes	1.7	3100	-20...70	95	IP68	Yes	2
8414 NHU		46.5	24	18...26	37	5.0	Yes	2.4	3600	-20...65	95	IP68	Yes	3





DC axial fans

Series 8300 U 80 x 80 x 32 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

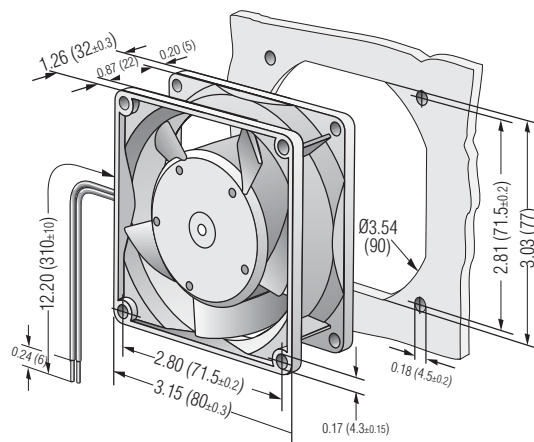
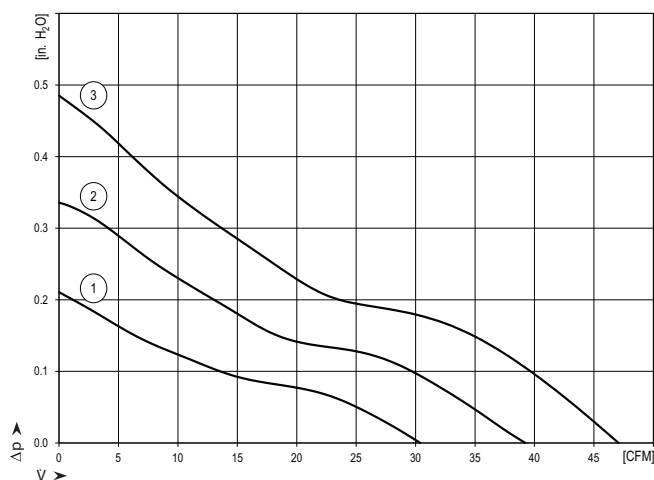
Material: Housing: Fiberglass-reinforced PBT composite

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
8314 U		31.8	24	12...31.5	36	5.2	Yes	2.7	3300	-20...75	210	IP68	Yes	1
8312 HLU		39.4	12	6...15	43	5.8	Yes	4.0	4200	-20...75	210	IP68	Yes	2
8314 HU		47.1	24	12...28	48	6.2	Yes	6.2	5000	-20...65	210	IP68	Yes	3

Curves





DC axial fans

Series 3300 U 92 x 92 x 32 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

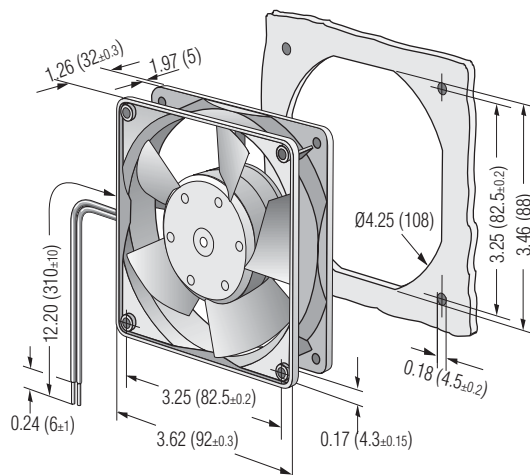
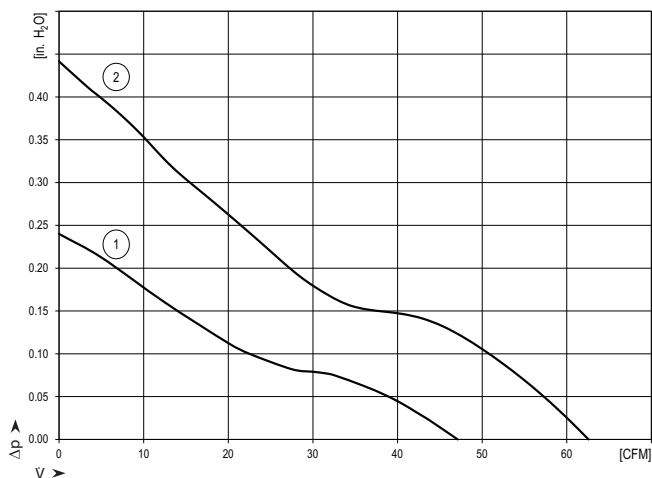
Material: Housing: Fiberglass-reinforced PBT composite

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
3312 U		47.1	12	6...15	37	5.2	Yes	2.5	3000	-20...75	215	IP68	Yes	1
3314 U		47.1	24	12...28	37	5.2	Yes	2.5	3000	-20...65	215	IP68	Yes	1
3314 HU		63.0	24	12...28	47	6.0	Yes	5.0	4000	-20...75	215	IP68	Yes	2

Curves





DC axial fans

Series 3400 NU 92 x 92 x 25 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 24, TR 64, bared and tin-plated
- Ingress protection rating of IP68

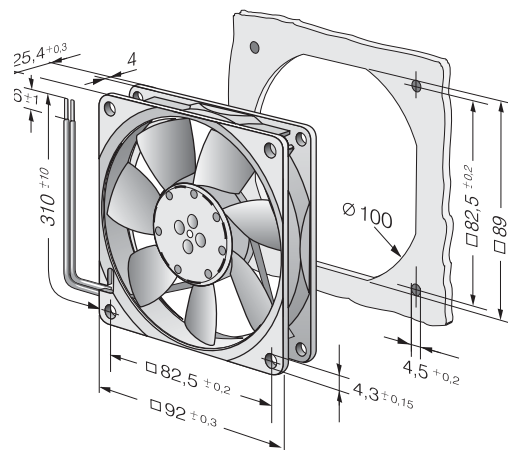
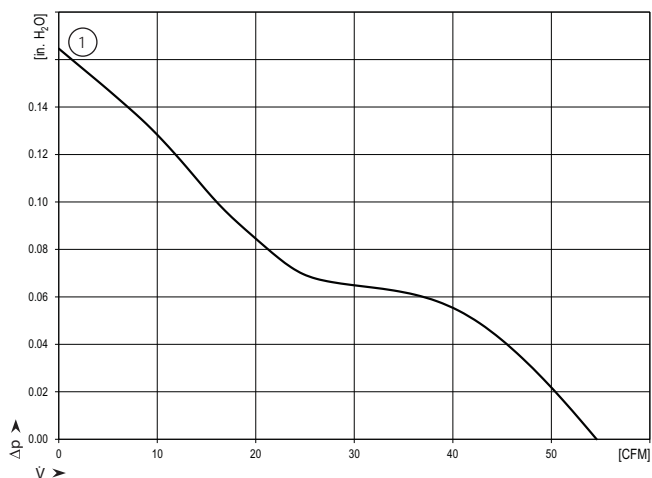
Material: Housing: Fiberglass-reinforced PBT composite

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
3414 NHU		55.3	24	18...26	36	5.0	Yes	2.3	3000	-20...70	106	IP68	Yes	1

Curves





DC axial fans

Series 4300 U 119 x 119 x 32 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

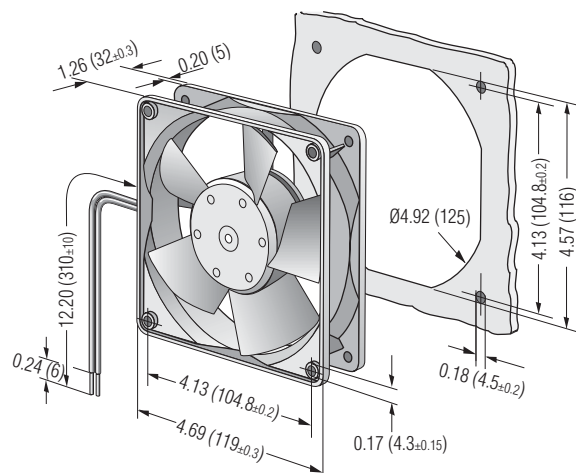
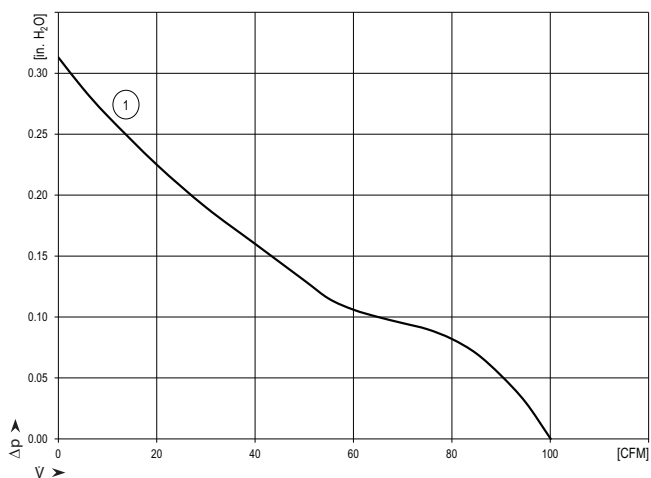
Material: Housing: Fiberglass-reinforced PBT composite

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
4312 U	100.1	12	6...15	45	5.8	Yes	5.0	2800	-20...65	260	IP68	Yes	1
4314 U	100.1	24	12...28	45	5.8	Yes	5.0	2800	-20...70	260	IP68	Yes	1
4312/2U	100.1	12	6...15	45	5.8	Yes	5.0	2800	-20...65	260	IP68	Yes	1
4314/2U	100.1	24	12...28	45	5.8	Yes	5.0	2800	-20...70	260	IP68	Yes	1

Curves





DC axial fans

Series 4100 NU 119 x 119 x 38 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air intake over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

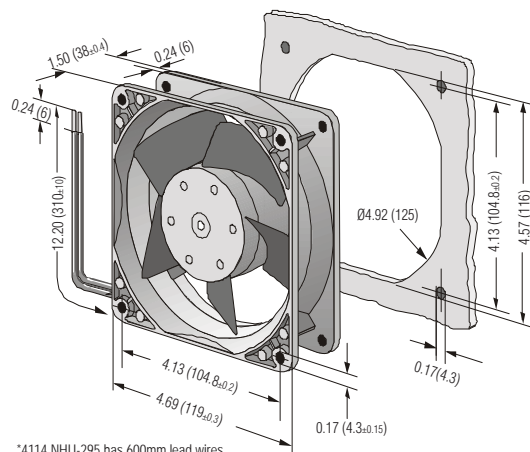
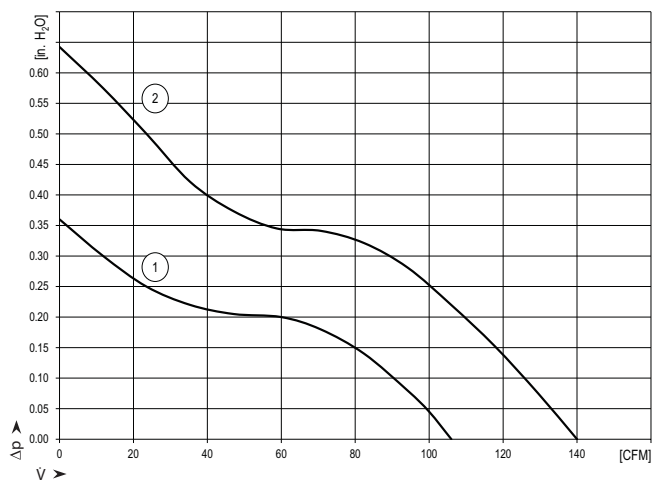
Material: Housing: Die-cast aluminum

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
4114 NU		106.0	24	12...29	48.5	5.7	Yes	5.6	3200	-20...75	400	IP68	Yes	1
4114 NHU-295*		140.0	24	16...30	57.0	6.5	Yes	11.0	4400	-20...55	400	IP68	Yes	2

Curves



*4114 NHU-295 has 600mm lead wires



DC axial fans

Series DV 5200 U 127 x 127 x 38 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 310 mm strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

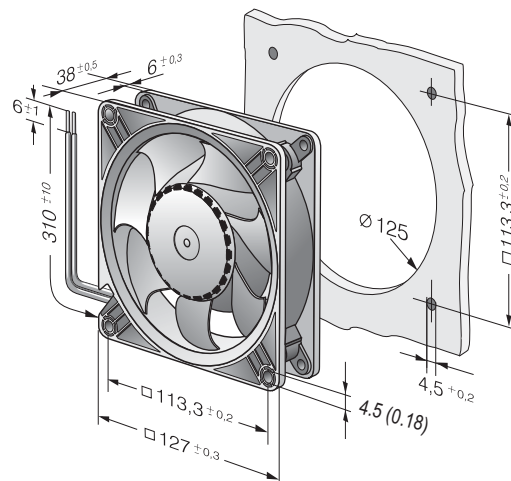
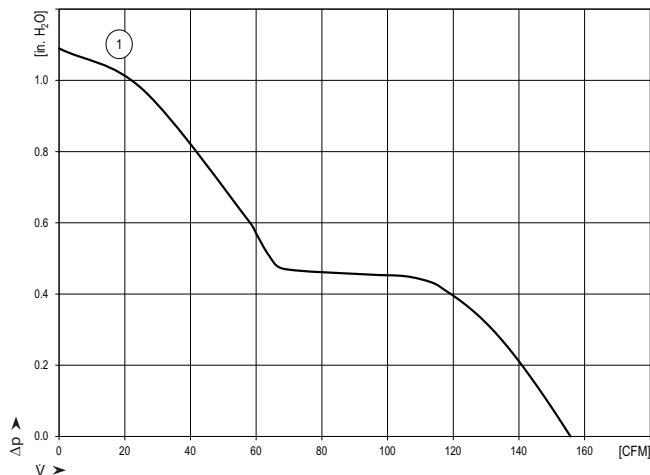
Material: Housing: Die-cast aluminum

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
DV 5214 NU	158.9	24	18...26.4	56	6.4	Yes	19.8	4930	-20...65	560	IP68	Yes	1

Curves





DC axial fans

Series 6200 NU Ø172 x 51 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via leads 310 mm AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

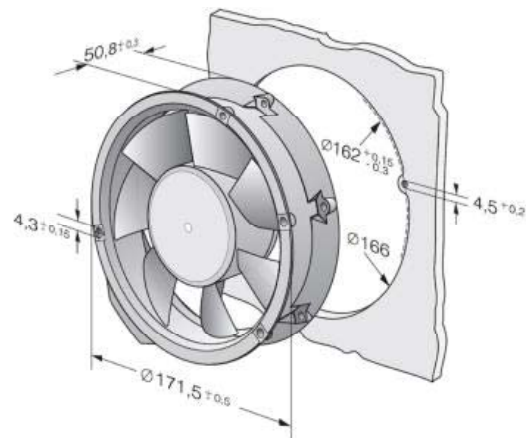
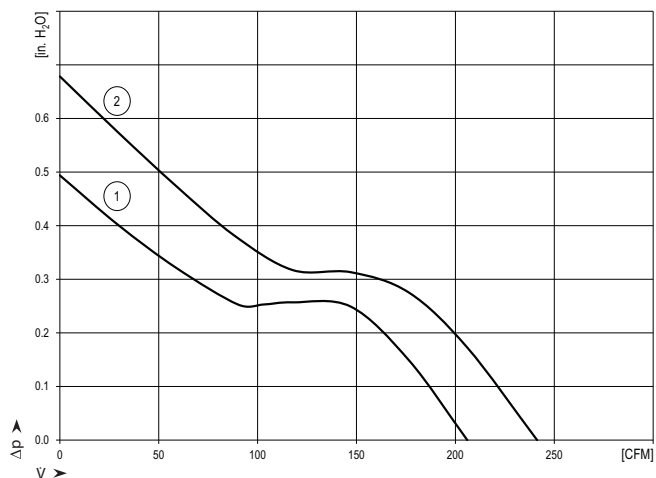
Material: Housing: Die-cast aluminum

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
6224 NMU	206.0	24	12...32	50	5.7	Yes	11.6	2950	-20...60	840	IP68	Yes	1
6224 NU	241.3	24	12...28	55	6.1	Yes	15.6	3400	-20...72	840	IP68	Yes	2

Curves





DC axial fans

Series 6400 U 172 x 150 x 51 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via leads 310 mm AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

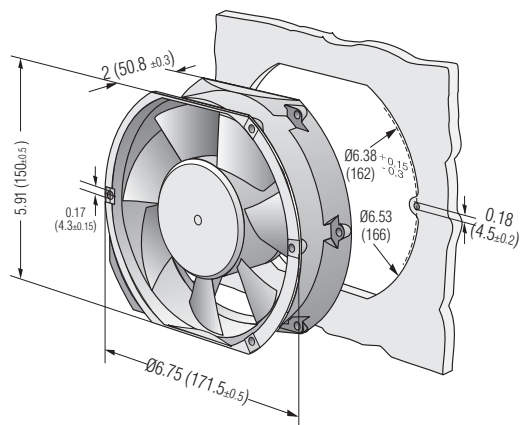
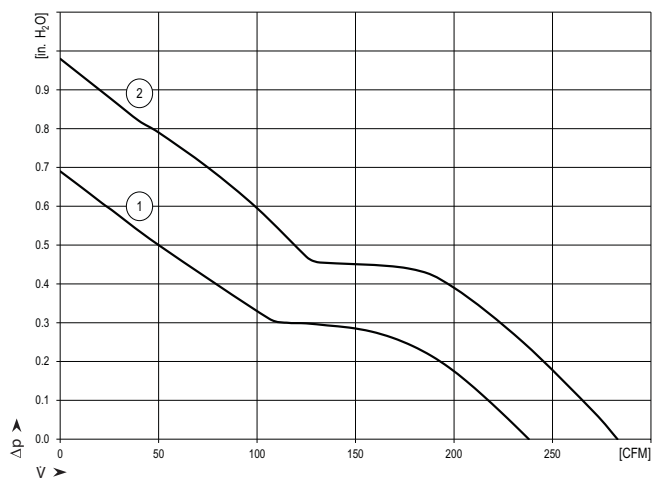
Material: Housing: Die-cast aluminum

Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
6424/2U	241.3	24	12...28	57	6.4	Yes	17	3400	-20...67	870	IP68	Yes	1
6448 U	241.3	48	28...60	57	6.4	Yes	17	3400	-20...67	870	IP68	Yes	1
6424 HU	283.0	24	12...28	63	7.1	Yes	26	4000	-20...55	870	IP68	Yes	2

Curves





DC axial fans

Series DV 6200 U Ø172 x 51 mm



Highlights:

- Motor protection against reverse polarity and locking.
- Air exhaust over struts
- Connection via 365 mm single strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

Material: Housing: Die-cast aluminum

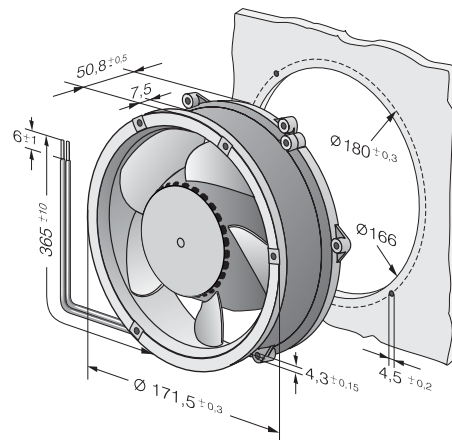
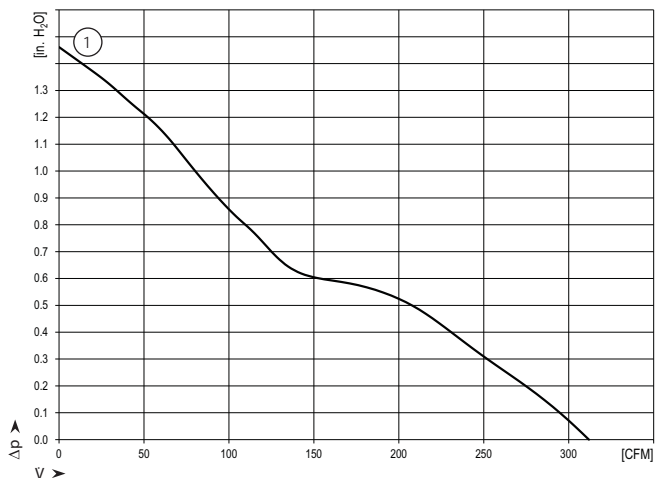
Impeller: Fiberglass-reinforced PA composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data

Type	Air flow CFM	Nominal voltage VDC	Voltage range VDC	Sound pressure level dB(A)	Sound power level Bel(A)	Ball bearings	Power input Watts	Speed RPM	Temperature range °C	Mass g	Ingress Protection Rating	UL Approval	Curves
DV 6248 U	317.8	48	28...60	63	7.1	Yes	40.0	4300	-20...75	895	IP68	Yes	1

Curves





DC centrifugal fans

Series RG 160 NU 220 x 220 x 56 mm



Highlights:

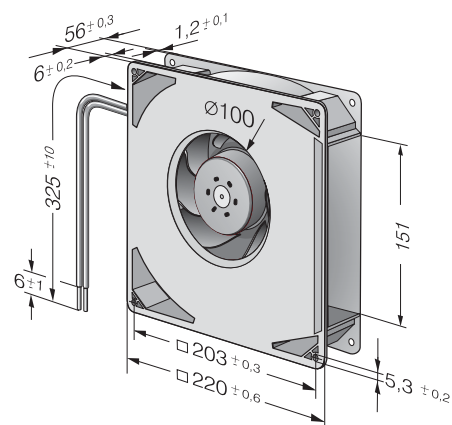
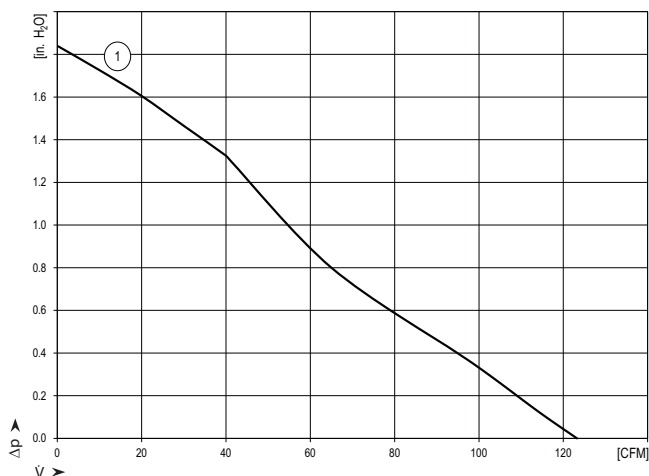
- Backward curved impeller
- Motor protection against reverse polarity and locking.
- Direction of air flow: axial air intake, centrifugal air exhaust
- Connection via single strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

Material: Impeller: Fiberglass-reinforced composite
Housing: Fiberglass-reinforced composite scroll
Baseplate: Steel

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
RG 160-28/14NU		123	24	12...28	-	6.6	Yes	20	2850	-20...55	1430	IP68	Yes	1
RG 160-28/18NU		123	48	28...60	-	6.6	Yes	20	2850	-20...70	1430	IP68	Yes	1

Curves





DC centrifugal fans

Series RER 133 TDU Ø133 x 91 mm



Highlights:

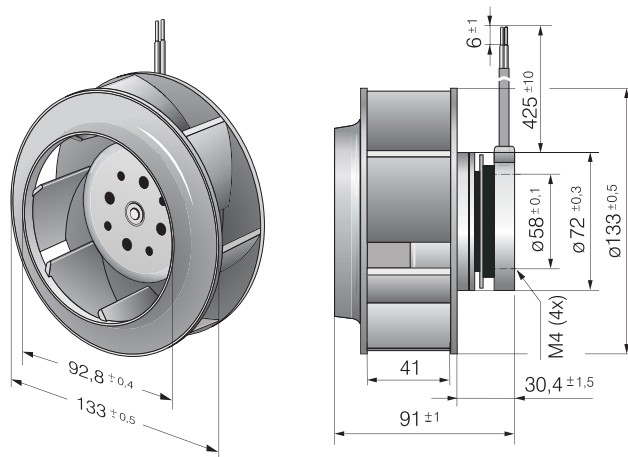
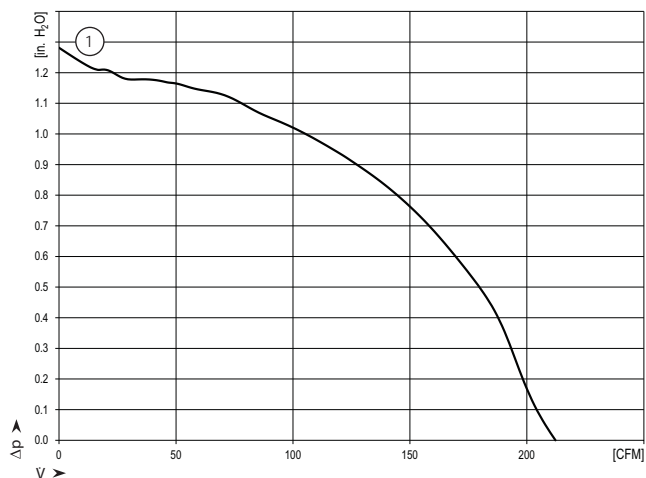
- Backward curved impeller with 3-phase efficient motor
- Motor protection against reverse polarity and locking
- Direction of air flow: axial air intake, centrifugal air exhaust
- Connection via single strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

Material: Impeller: Fiberglass-reinforced composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
RER 133-41/18/2TDLOU		211.9	48	36...57	-	6.9	Yes	30.1	4000	-20...70	740	IP68	Yes	1

Curves





DC centrifugal fans

Series RER 160 NTDU Ø165 x 51 mm



Highlights:

- Backward curved impeller
- Motor protection against reverse polarity and locking
- Direction of air flow: axial air intake, centrifugal air exhaust
- Connection via single strands AWG 22, TR 64, bared and tin-plated
- Ingress protection rating of IP68

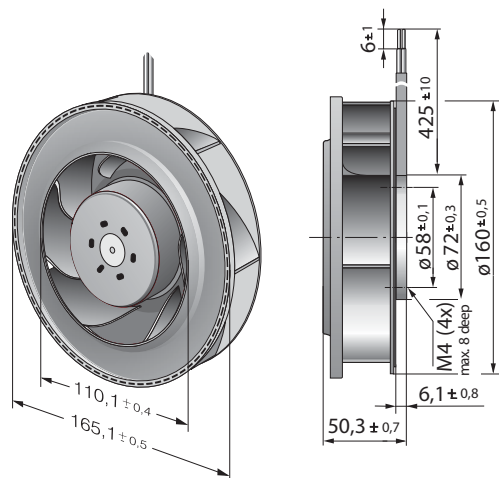
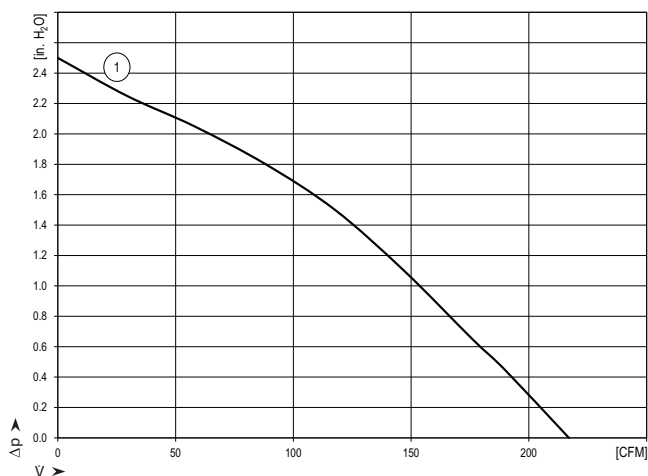
Material: Impeller: Fiberglass-reinforced composite

Direction of rotation: Counterclockwise, seen on rotor

Nominal Data

Type	Air flow CFM	Nominal voltage VDC	Voltage range VDC	Sound pressure level dB(A)	Sound power level Bel(A)	Ball bearings	Power input Watts	Speed RPM	Temperature range °C	Mass g	Ingress Protection Rating	UL Approval	Curves
RER 160-28/18NTDAU	217.0	48	38...57	-	7.4	Yes	51	4200	-20...60	700	IP68	Yes	1

Curves





DC centrifugal fans

Series RER 175 TDU Ø175 x 69 mm



Highlights:

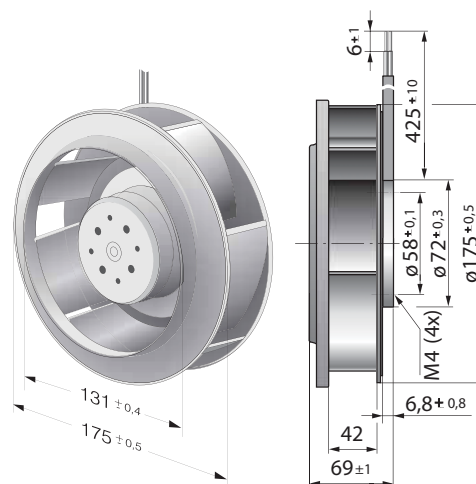
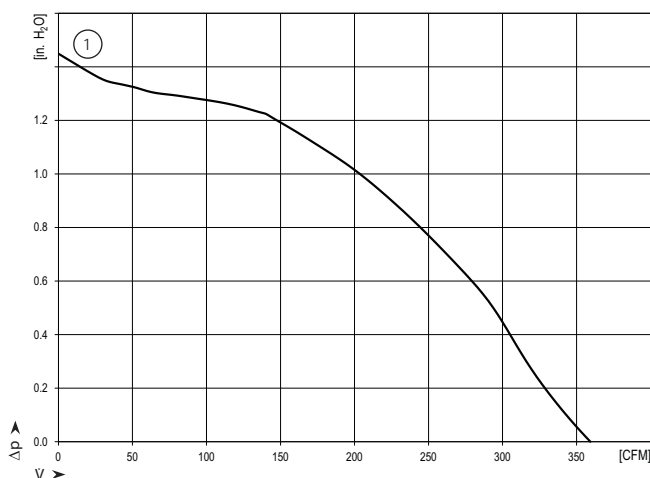
- Backward curved impeller with 3-phase motor
- Motor protection against reverse polarity and locking
- Direction of air flow: axial air intake, centrifugal air exhaust
- Connection via single strands AWG 22, TR 64, speed signal and control input AWG 22, bared and tin-plated
- Available as standard with PWM control input and speed signal
- Ingress protection rating of IP68

Material: Impeller: Fiberglass-reinforced composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data	Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type	CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
RER 175-42/14/2TDMLPU	353.0	24	16...30	-	7.3	Yes	48	3400	-20...65	775	IP68	Yes	1

Curves





DC centrifugal fans

Series RER 190 TDU Ø190 x 69 mm



Highlights:

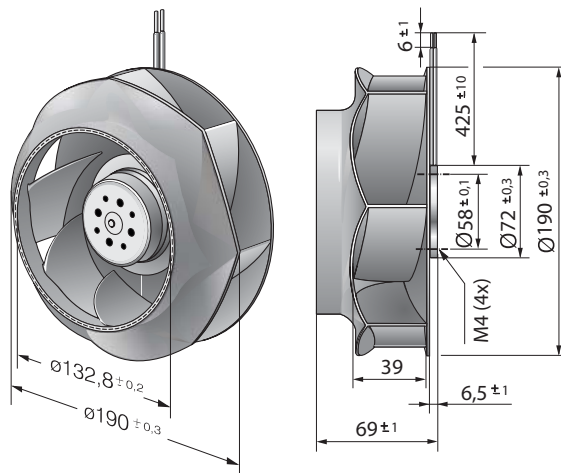
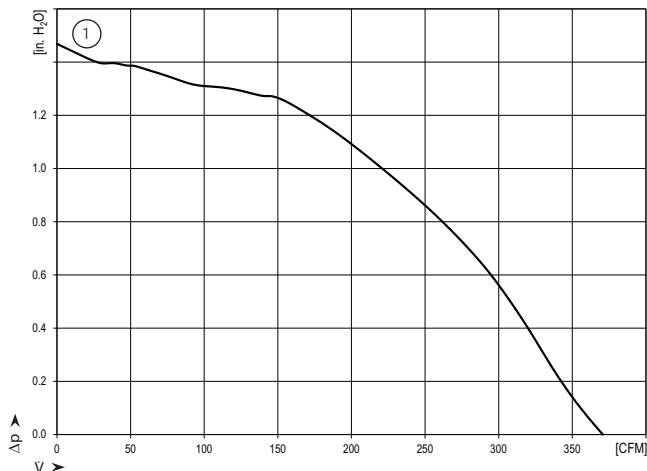
- Backward curved RadiCal impeller with maximum efficiency and 3-phase motor
- Motor protection against reverse polarity and locking
- Direction of air flow: axial air intake, centrifugal air exhaust
- Connection via single strands AWG 22, TR 64, speed signal and control input AWG 22, bared and tin-plated
- Ingress protection rating of IP68

Material: Impeller: Fiberglass-reinforced composite

Direction of rotation: Clockwise, seen on rotor

Nominal Data		Air flow	Nominal voltage	Voltage range	Sound pressure level	Sound power level	Ball bearings	Power input	Speed	Temperature range	Mass	Ingress Protection Rating	UL Approval	Curves
Type		CFM	VDC	VDC	dB(A)	Bel(A)		Watts	RPM	°C	g			
RER 190-39/14/2TDLOU		376.7	24	16...30	-	6.8	Yes	57.1	2900	-20...60	870	IP68	Yes	1

Curves



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