

Product overview

# AC centrifugal fans



The tried-and-tested AC fans from ebm-papst are used wherever DC voltage is not available. In addition to complete devices, you will also find fans without external housing. These offer economic benefits whenever the air duct design can be integrated in the device that is being ventilated.



AC centrifugal fans are available in many sizes with forward or backward-curved fan impeller. Depending on the installation situation, it is a pure fan impeller or is combined with a housing with optimized air flow and noise.



Fan drives through shaded-pole or capacitor motors usually incorporate the familiar external rotor principle. This design combines high performance with economic efficiency. ebm-papst also offers particularly flat AC fans with an internal rotor motor. The advantage of these is their fast start-up to full speed, resulting in lower mass moments of inertia.



All fan types are designed in IP20 as standard. IP54/IP68 solutions and special protection types are available on request.

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### Type code example: VBH0450PTTLZ

V	B	H	0450	P	T	T	L	Z
Product category	Product type Airflow direction	Product version	Diameter	Brand name	Motor	Motor size		Standard
						Diameter	Stack length	

Dimension in mm	Type	Type (old)	Page
□ 121 x 37	VHS0090XQHCS	RL 90	338
□ 135 x 38	VHS0090XQHCS	RG 90	340
□ 180 x 40	VCS0125XQHCS	RG 125	342
□ 220 x 56	VCS0160XQKDS	RG 160	344
∅ 138 x 40	VBS0125XQHCS	RER 125	346
∅ 176 x 54	VBS0160XQKDS	RER 160	348

# VHS0090XQHCS

AC centrifugal fans · max. 38.3 m<sup>3</sup>/h · □ 121 x 37 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic
- Base plate: Metal

## Characteristics

- Version: Classic AC fan in centrifugal design with housing and forward-curved impeller; compact and robust
- Direction of air flow: centrifugal; Discharge through window in housing
- Direction of rotation: clockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires; Housing base with flat plugs 6.3 x 0.8 mm for ground conductor
- Electrical protection class: I
- Weight: 680 g

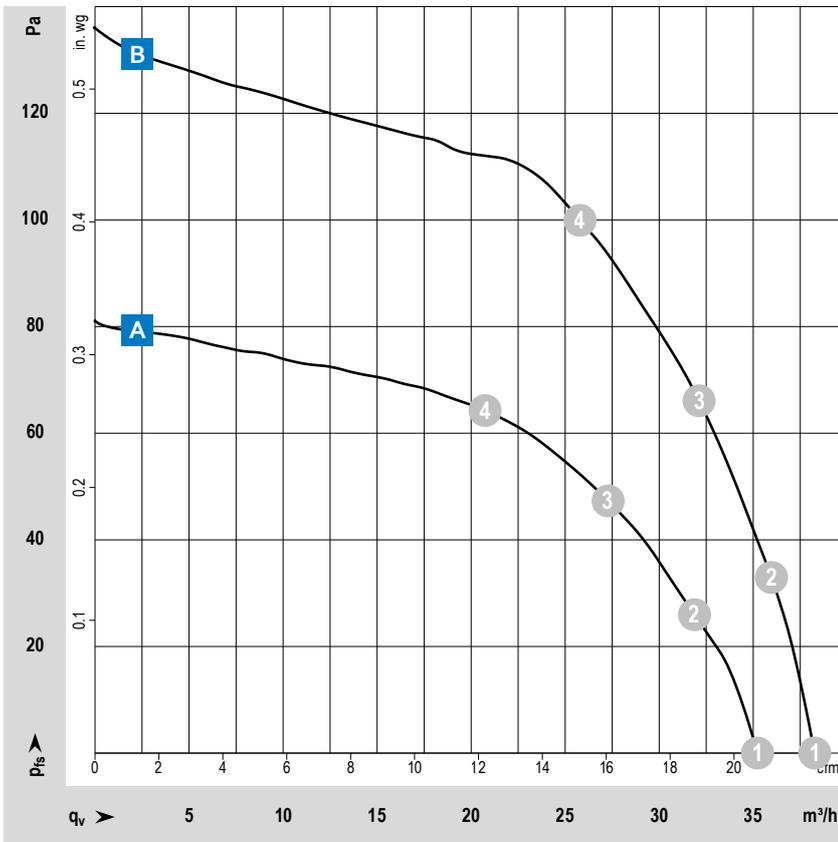
## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection
- Salt spray protection
- Degree of protection: up to IP54

from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>



### Measuring conditions

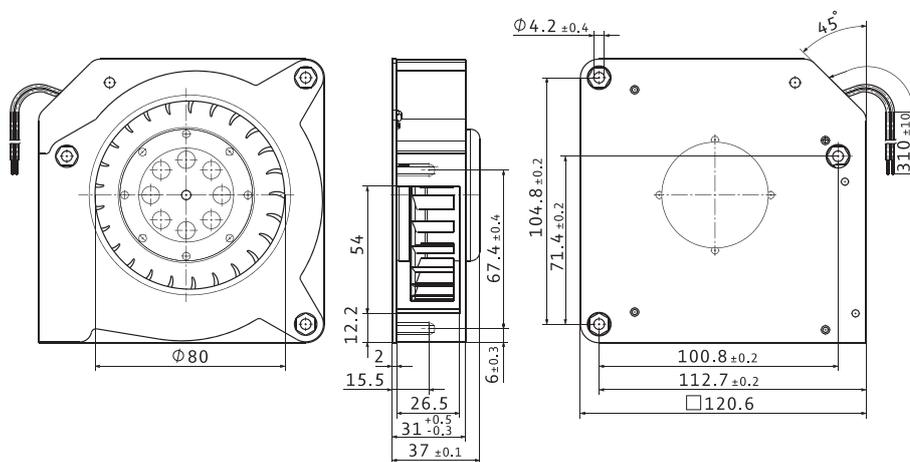
Air performance measured according to: ISO 5801. Installation category A, without contact protection.  
 Noise: Total sound p<sub>r</sub>wer level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation!  
 For detailed information see <http://www.ebmpapst.com/general conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow		Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life L <sub>10</sub> (40 °C) ebm-papst standard
		VAC	Hz			m <sup>3</sup> /h	cfm					
VHS0090XQHCS RL 90-18/50	9214014004	230	50	A	①	33.9	20.0	2 450	19.3	6.0	-10...+50	37 500
					②	31.9	18.8	2 440	19.3	6.1		
					③	27.2	16.0	2 520	18.6	5.9		
					④	21.0	12.4	2 590	17.9	5.7		
VHS0090XQHCS RL 90-18/56	9214014019	230	50	A	①	35.2	20.7	2 450	22.3	6.0	-30...+70	37 500
					②	31.9	18.8	2 460	22.1	6.1		
					③	27.2	16.0	2 550	21.3	5.9		
					④	20.7	12.2	2 630	20.6	5.7		
VHS0090XQHCS RL 90-18/00	9214014005	115	60	B	①	38.3	22.5	2 550	21.4	6.2	-10...+60	37 500
					②	36.0	21.2	2 730	21.5	6.2		
					③	32.1	18.9	2 940	20.4	6.2		
					④	25.8	15.2	3 120	19.2	6.1		
VHS0090XQHCS RL 90-18/06	9214014021	115	60	B	①	35.7	21.0	2 550	17.1	6.2	-30...+85	37 500
					②	32.9	19.4	2 570	17.0	6.2		
					③	29.2	17.2	2 750	16.1	6.2		
					④	23.3	13.7	2 920	15.1	6.1		

Subject to changes.

## Technical drawing

Dimensions in mm



Type / Type old	Connection wires
VHS0090XQHCS RL 90-18/50	AWG 18, TR 32
VHS0090XQHCS RL 90-18/00	AWG 18, TR 32
VHS0090XQHCS RL 90-18/56	AWG 22
VHS0090XQHCS RL 90-18/06	AWG 22

# VHS0090XQHCS

AC centrifugal fans · max. 50 m<sup>3</sup>/h · □ 135 x 38 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic
- Base plate: Metal

## Characteristics

- Version: Classic AC fan in centrifugal design with housing and forward-curved impeller; compact and robust
- Direction of air flow: centrifugal; Discharge through window in housing
- Direction of rotation: clockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires AWG 22
- Electrical protection class: I
- Weight: 560 g

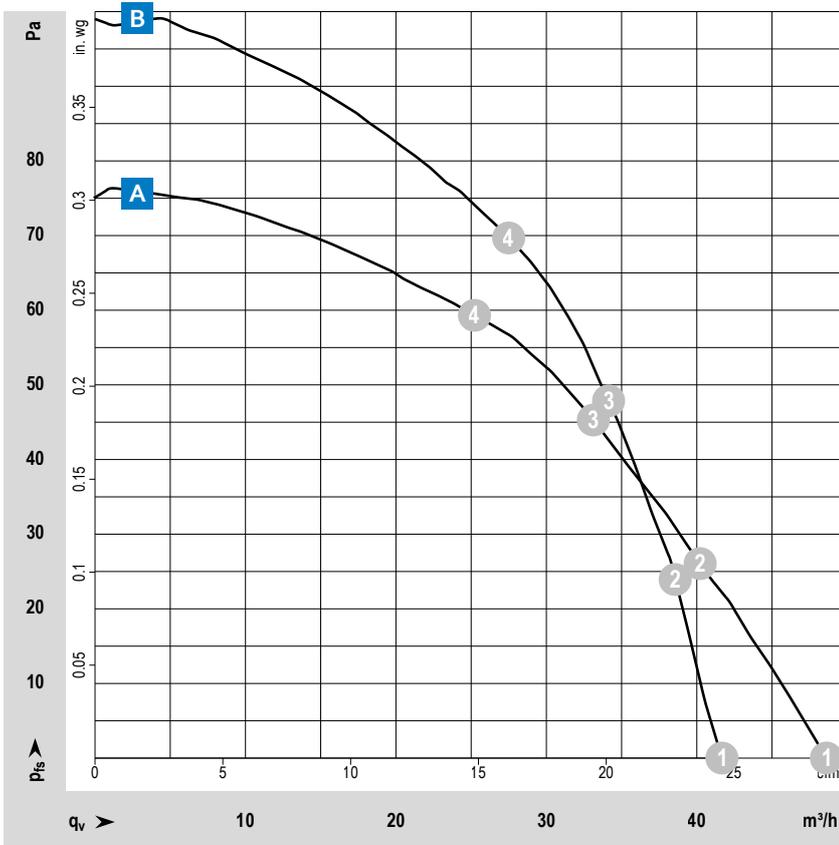
## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection
- Salt spray protection
- Degree of protection: up to IP54

from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>



### Measuring conditions

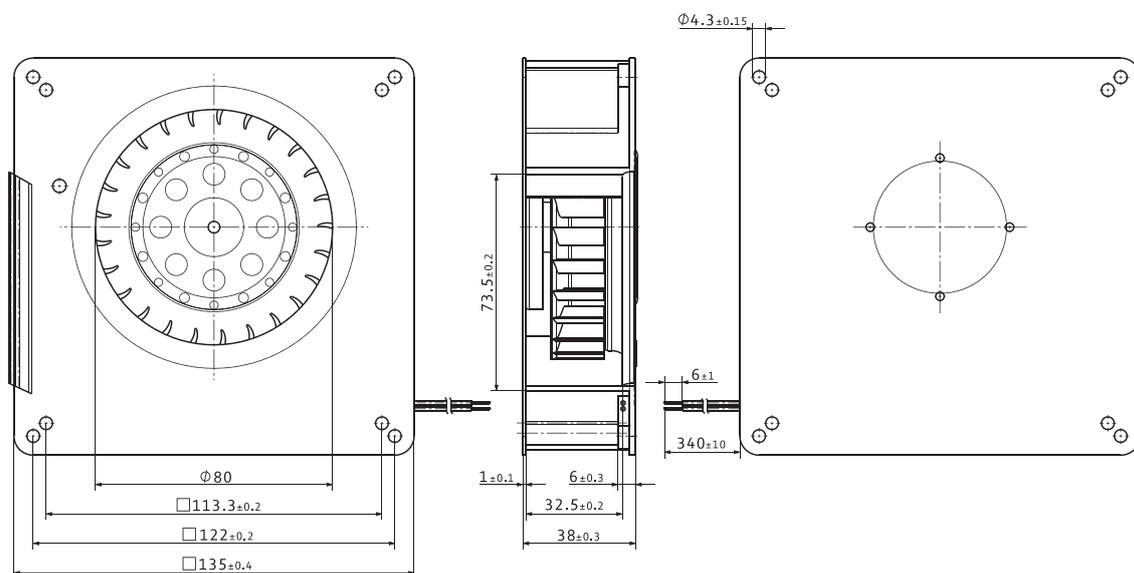
Air performance measured according to: ISO 5801. Installation category A, without contact protection.  
 Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation!  
 For detailed information see <http://www.ebmpapst.com/general conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow	Air flow	Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life L <sub>10</sub> (40 °C) ebm-papst standard
		VAC	Hz			m <sup>3</sup> /h	cfm					
VHS0090XQHCS RG 90-18/50	9544014005	230	50	B	① ② ③ ④	49	29	2 200	20.6	6.1	-30...+60	35 000
						40	24	2 330	19.6	5.9		
						33	19	2 420	18.9	5.7		
						25	15	2 510	18.1	5.6		
VHS0090XQHCS RG 90-18/56	9544014001	230	50	B	① ② ③ ④	50	29	2 200	20.1	6.1	-30...+60	35 000
						41	24	2 340	19.0	5.9		
						34	20	2 440	18.2	5.7		
						26	15	2 530	17.4	5.6		
VHS0090XQHCS RG 90-18/00	9544014006	115	60	A	① ② ③ ④	42	25	1 900	16.8	5.8	-30...+65	35 000
						40	23	2 270	16.0	5.9		
						35	20	2 530	15.0	5.8		
						28	16	2 750	13.9	5.9		
VHS0090XQHCS RG 90-18/06	9544014002	115	60	A	① ② ③ ④	43	25	1 900	13.1	5.8	-30...+65	35 000
						38	22	2 200	12.4	5.9		
						33	19	2 400	11.7	5.8		
						26	15	2 570	10.9	5.9		

Subject to changes.

## Technical drawing

Dimensions in mm



# VCS0125XQHCS

AC centrifugal fans · max. 84 m<sup>3</sup>/h · □ 180 x 40 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic
- Base plate: Metal

## Characteristics

- Version: Classic AC fan in centrifugal design with housing and backward-curved impeller; compact and robust
- Direction of air flow: centrifugal; Discharge through window in housing
- Direction of rotation: clockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires AWG 22
- Electrical protection class: I
- Weight: 850 g

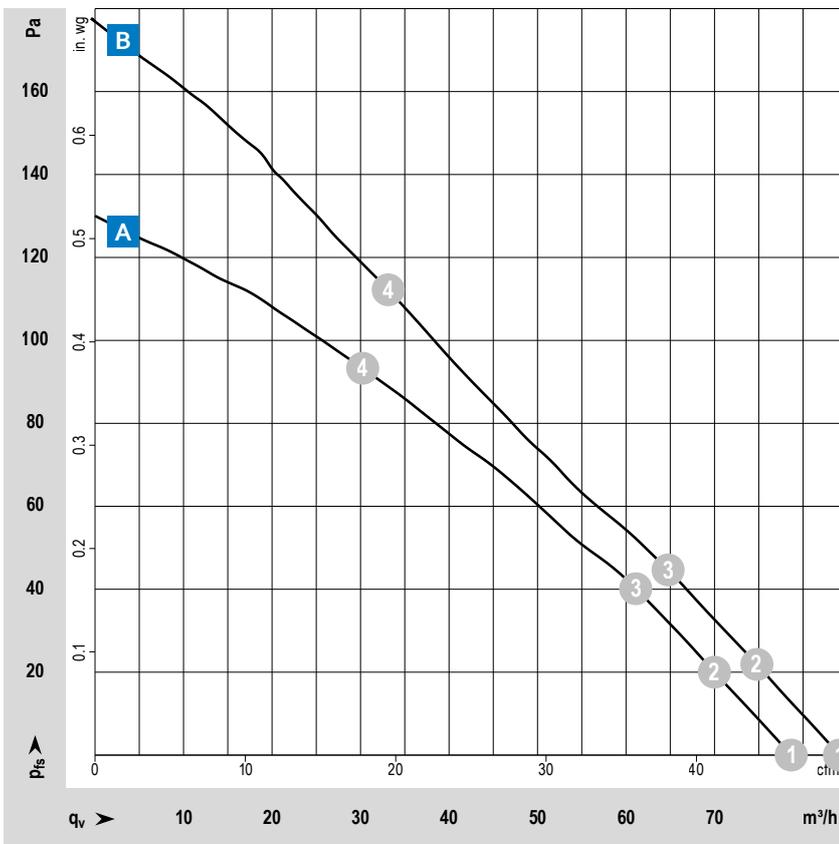
## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection
- Salt spray protection
- Degree of protection: up to IP54

from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>



### Measuring conditions

Air performance measured according to: ISO 5801. Installation category A, without contact protection.

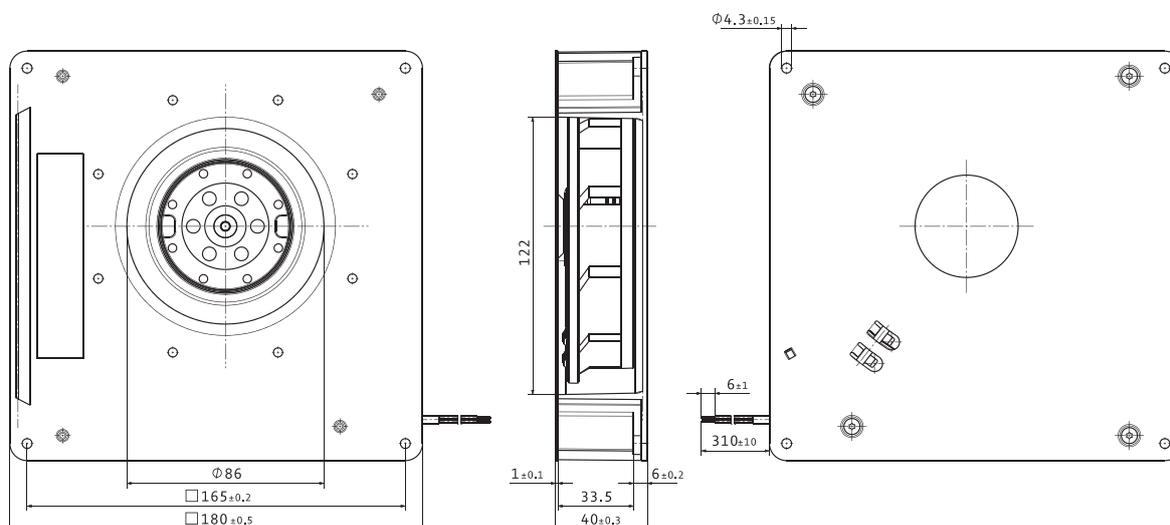
Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow		Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life
		VAC	Hz			m³/h	cfm	rpm	W	Bel(A)	°C	L <sub>10</sub> (40 °C) ebm-papst standard
VCS0125XQHCS RG 125-19/56	9544014101	230	50	A	①	79.0	46.5	2 550	20.3	6.2	-30...+70	37 500
					②	70.0	41.2	2 530	20.4	6.1		
					③	61.0	35.9	2 520	20.4	6.0		
					④	30.2	17.8	2 580	19.5	5.8		
VCS0125XQHCS RG 125-19/06	9544014102	115	60	B	①	84.0	49.4	2 750	16.8	6.4	-30...+80	40 000
					②	75.0	44.1	2 720	17.0	6.3		
					③	65.0	38.3	2 700	17.0	6.2		
					④	33.1	19.5	2 830	16.2	6.0		

Subject to changes.

## Technical drawing

Dimensions in mm



# VCS0160XQKDS

AC centrifugal fans · max. 211 m<sup>3</sup>/h · □ 220 x 56 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic
- Base plate: Metal

## Characteristics

- Version: Classic AC fan in centrifugal design with housing and backward-curved impeller; compact and robust
- Direction of air flow: centrifugal; Discharge through window in housing
- Direction of rotation: counterclockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires AWG 18
- Electrical protection class: I
- Weight: 1.7 kg

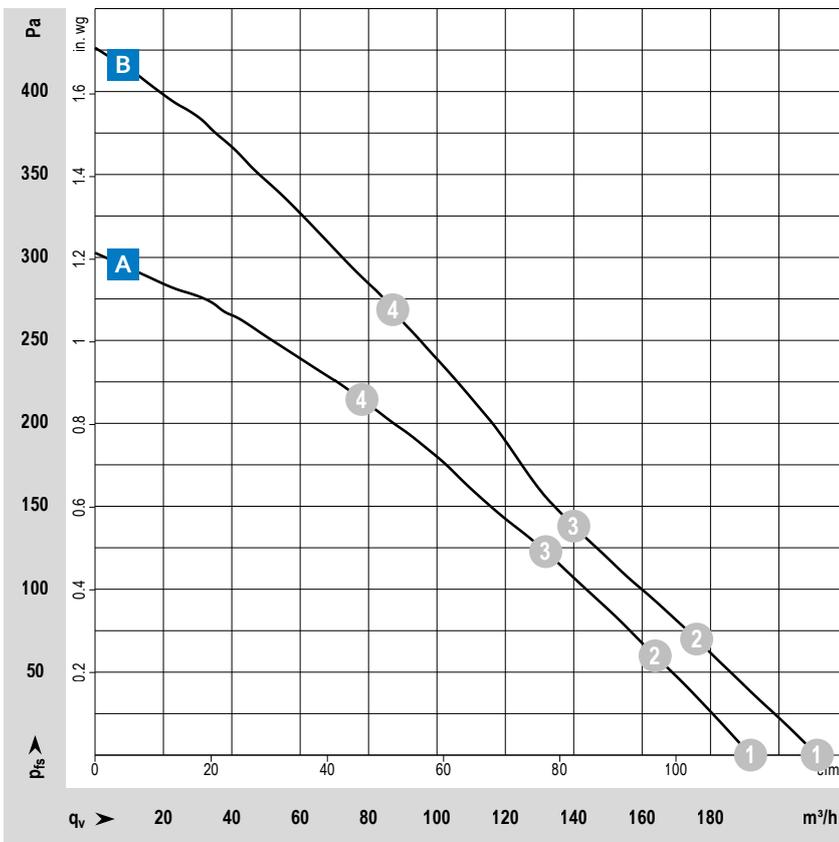
## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection
- Salt spray protection
- Degree of protection: up to IP54

from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>



### Measuring conditions

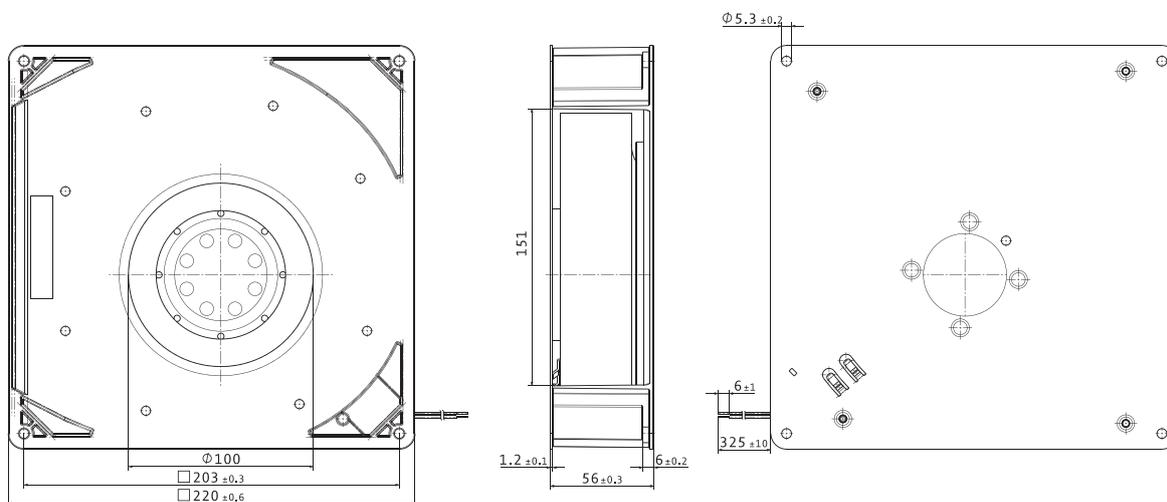
Air performance measured according to: ISO 5801. Installation category A, without contact protection.  
 Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation!  
 For detailed information see <http://www.ebmpapst.com/general conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow	Air flow	Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life L <sub>10</sub> (40 °C) ebm-papst standard
		VAC	Hz			m <sup>3</sup> /h	cfm					
VCS0160XQKDS RG 160-28/56S	9545020001	230	50	A	①	192	113	2 750	48.7	7.1	-30...+70	30 000
						164	97	2 730	49.2	7.0		
						132	78	2 720	48.9	6.8		
						78	46	2 780	46.1	6.5		
VCS0160XQKDS RG 160-28/06S	9545020002	115	60	B	①	211	124	3 050	49.9	7.4	-30...+80	27 500
						176	104	2 960	52.1	7.2		
						140	82	2 900	53.2	7.0		
						87	51	3 130	47.8	6.9		

Subject to changes.

## Technical drawing

Dimensions in mm



# VBS0125XQHCS

AC centrifugal fans · max. 108 m<sup>3</sup>/h · Ø 138 x 40 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic with sheet steel reinforced

## Characteristics

- Version: Classic AC fan in centrifugal design without housing with backward-curved impeller; compact and robust
- Direction of air flow: centrifugal
- Direction of rotation: clockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires AWG 22
- Electrical protection class: I
- Weight: 500 g

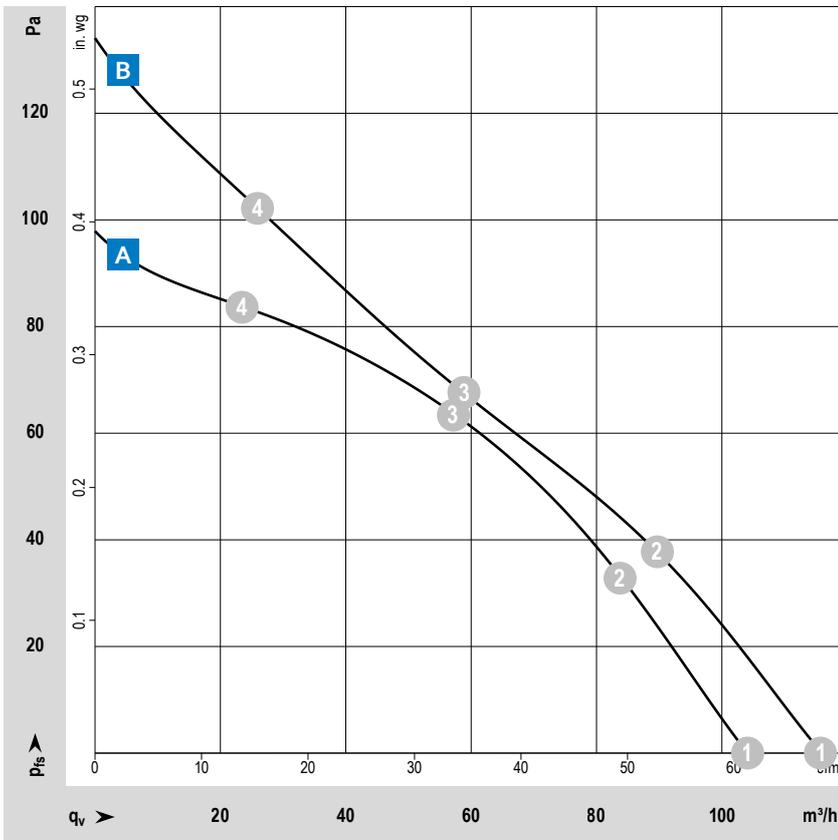
## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection
- Salt spray protection
- Degree of protection: up to IP54

from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>



### Measuring conditions

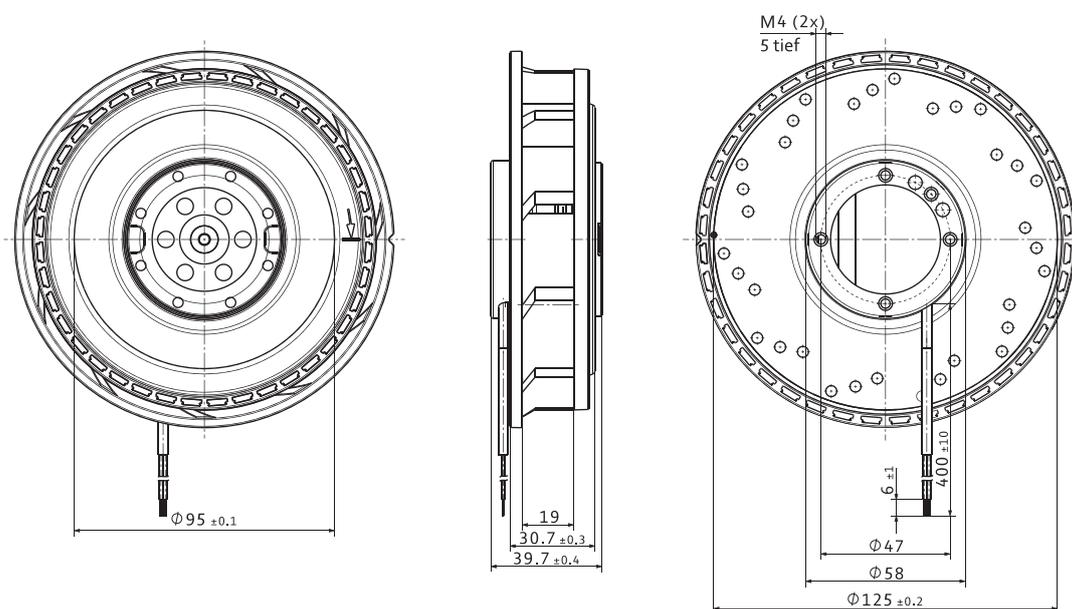
Air performance measured according to: ISO 5801. Installation category A, without contact protection.  
 Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation!  
 For detailed information see <http://www.ebmpapst.com/general-conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow		Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life L <sub>10</sub> (40 °C) ebm-papst standard
		VAC	Hz			m <sup>3</sup> /h	cfm	rpm				
VBS0125XQHCS RER 125-19/56	9544014151	230	50	A	①	104.0	61.2	2 600	19.2	6.4	-30...+60	37 500
					②	84.0	49.4	2 550	19.7	6.2		
					③	57.0	33.5	2 520	19.9	6.0		
					④	23.5	13.8	2 620	19.0	5.9		
VBS0125XQHCS RER 125-19/06	9544014152	115	60	B	①	108.0	63.6	2 900	15.3	6.6	-30...+70	40 000
					②	86.0	50.6	2 750	16.1	6.4		
					③	59.0	34.7	2 630	16.7	6.2		
					④	25.0	14.7	2 800	15.8	6.2		

Subject to changes.

## Technical drawing

Dimensions in mm



# VBS0160XQKDS

AC centrifugal fans · max. 273 m<sup>3</sup>/h · Ø 176 x 54 mm



## Material/Surface

- Scroll housing: Plastic
- Impeller: Plastic with sheet steel reinforced

## Characteristics

- Version: Classic AC fan in centrifugal design without housing with backward-curved impeller; compact and robust
- Direction of air flow: centrifugal
- Direction of rotation: counterclockwise, looking towards rotor
- Installation position: any
- Bearing: Sleeve bearings or ball bearings
- Operating mode: Continuous operation (S1)
- IP protection class: IP20
- Electrical hookup: via 2 single wires AWG 18
- Electrical protection class: I
- Weight: 1.0 kg

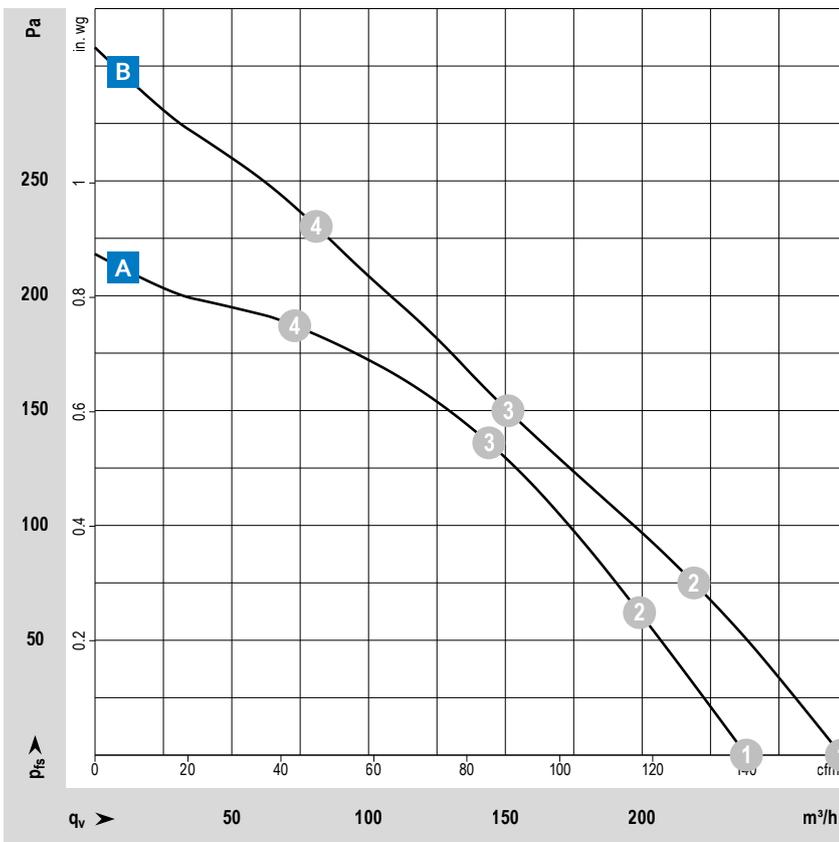
from page 14	Definitions
from page 350	Accessories
more at	<a href="http://www.ebmpapst.com">www.ebmpapst.com</a>

## Approvals

- DIN EN 62368, UL507, CSA C22.2 Nr. 113, EAC, CE, UKCA, CCC

## Options

- Moisture protection



### Measuring conditions

Air performance measured according to: ISO 5801. Installation category A, without contact protection.

Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general conditions>

Type / Type old	Part number	Nominal voltage	Frequency	Characteristic curve	Operating point	Air flow		Speed	Power consumption	Sound power level	Perm. ambient temperature	Service life L <sub>10</sub> (40 °C) ebm-papst standard
		VAC	Hz			m³/h	cfm	rpm				
VBS0160XQKDS RER 160-28/56S	9545020051	230	50	A	①	238	140	2 850	46.7	7.3	-30...+60	30 000
					②	199	117	2 800	48.7	7.2		
					③	144	85	2 770	49.7	6.9		
					④	73	43	2 820	47.1	6.7		
VBS0160XQKDS RER 160-28/06S	9545020052	115	60	B	①	273	161	3 250	47.3	7.7	-30...+70	30 000
					②	219	129	3 080	51.9	7.5		
					③	151	89	2 900	55.4	7.1		
					④	81	48	3 130	50.4	7.0		

Subject to changes.

Förderleistung und Geräusch von Centrifugal Lüftern ohne Außenhousing hängen von ihren Einbauverhältnissen ab. Der genannte Air flow und das Geräusch wurden unter folgenden Measuring conditions ermittelt:  
Montage des Centrifugallüfters auf Grundplatte 260 x 260 mm.  
Deckplatte 260 x 260 mm, mit Lufteinlassöffnung Ø 100 mm, konzentrisch zum Lüfterrand.

## Technical drawing

Dimensions in mm

