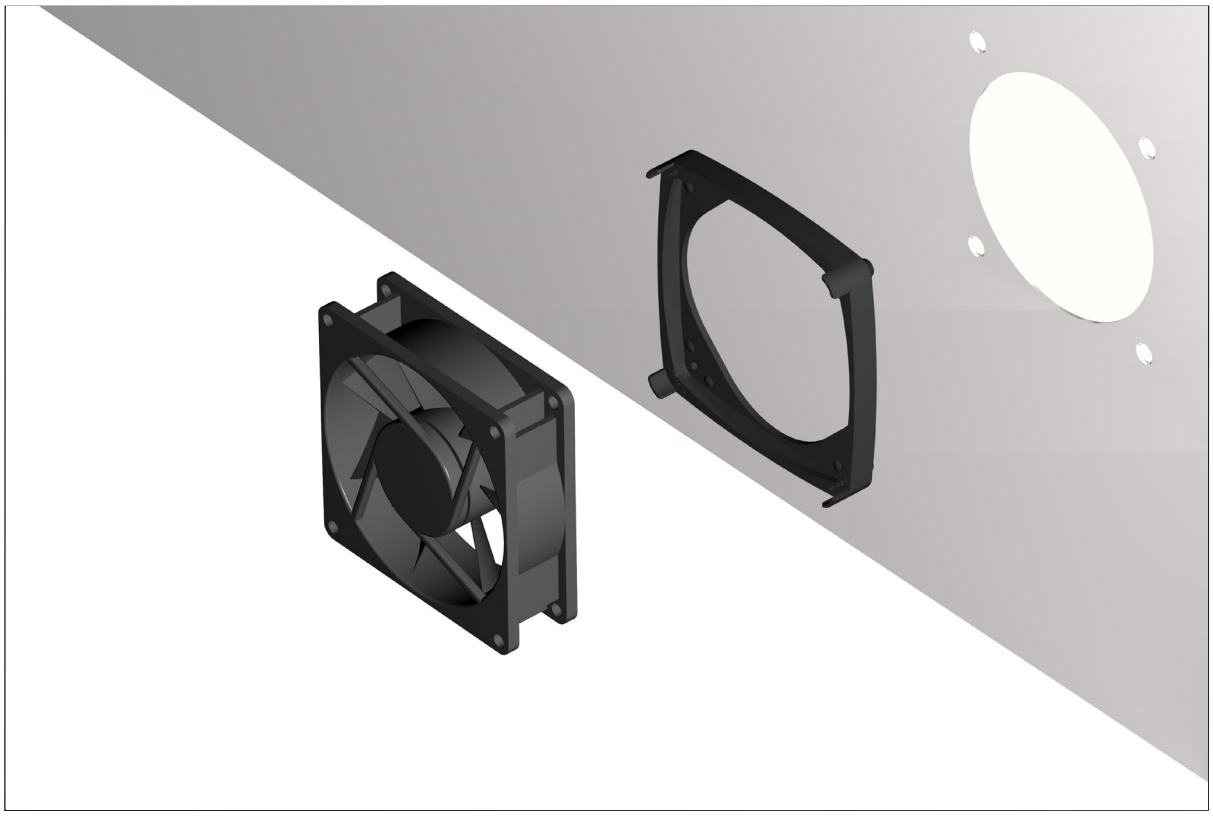
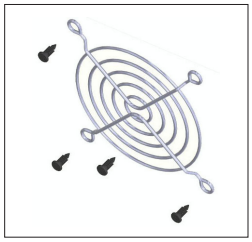
FAN VIBRATION ABSORBER and ACCESSORIES

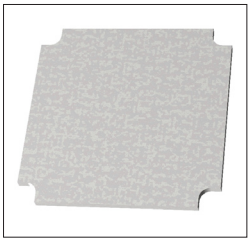


*FAN NOT SUPPLIED BY QUALTEK

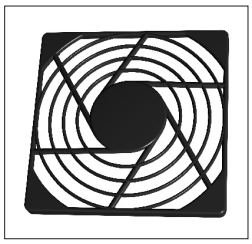


Wire Form Guard

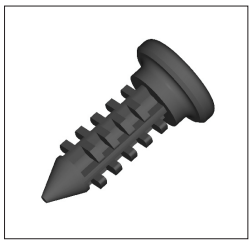
Fan Sleeve



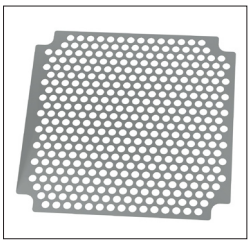
Filter Media



Guard Grill



Rivet



EMI Filter Shield

RoHS Compliant

Qualtek ELECTRONICS CORP.

Qualtek ELECTRONICS CORP.

Hole Layouts / Mounting

It's easy to attach axial fans with our patented fastening elements. No tools or screws are required.

Our fan vibration absorbers greatly reduce the transmission of vibrations to the panel housing causing a reduction in the level of noise up to 9 decibels.

Fan vibrations are absorbed by the flexible sleeves, thereby reducing damage and increasing the life span of the fan.

We offer the customer a complete solution. Product accessories include screwless, mountable plastic finger guards, filter media, EMI shields, filter guards and rivets.

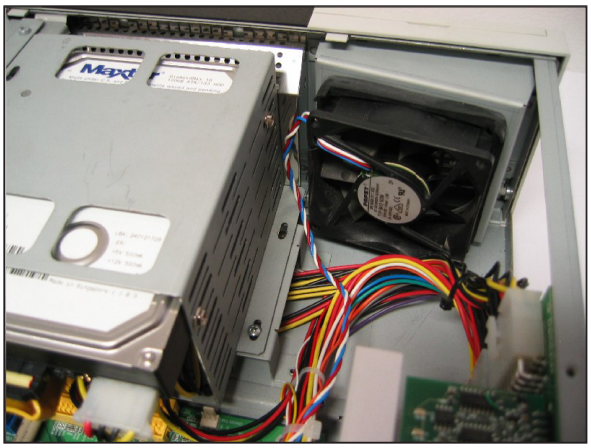
Using high quality materials and priced to meet market conditions, we are the product of choice by customers requiring vibration / noise solutions.

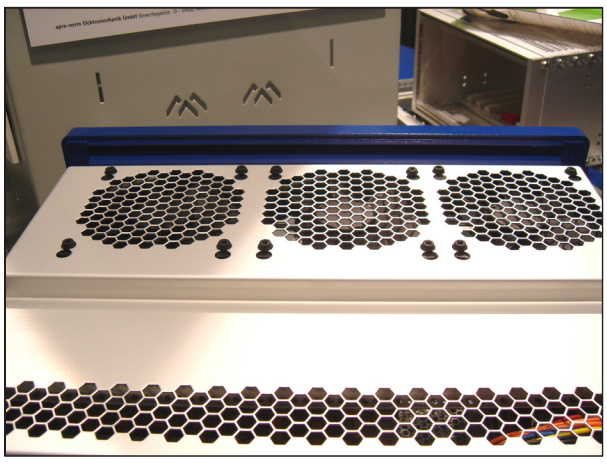
The fan vibration sleeves and accessories will fit most fan manufacturer's products.

We are constantly developing and expanding our fan vibration products and accessories.

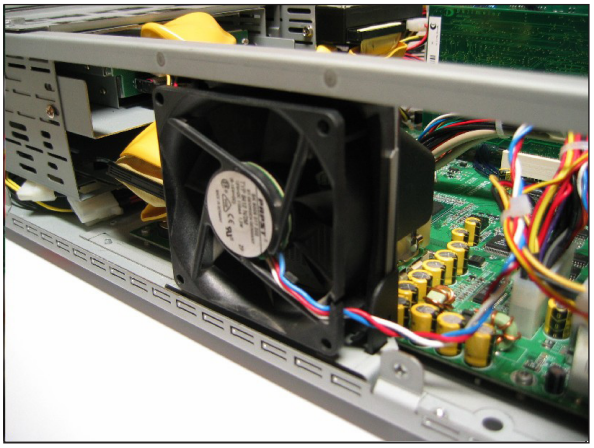
Please contact us if you cannot find the right mounting elements or accessories.

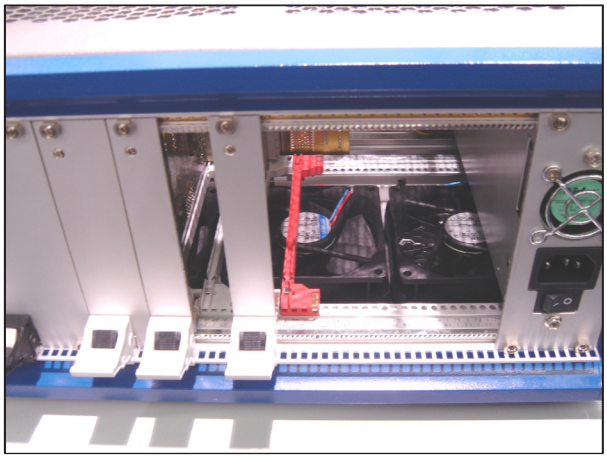
Inquiries for the development of special solutions or custom applications are always welcome.





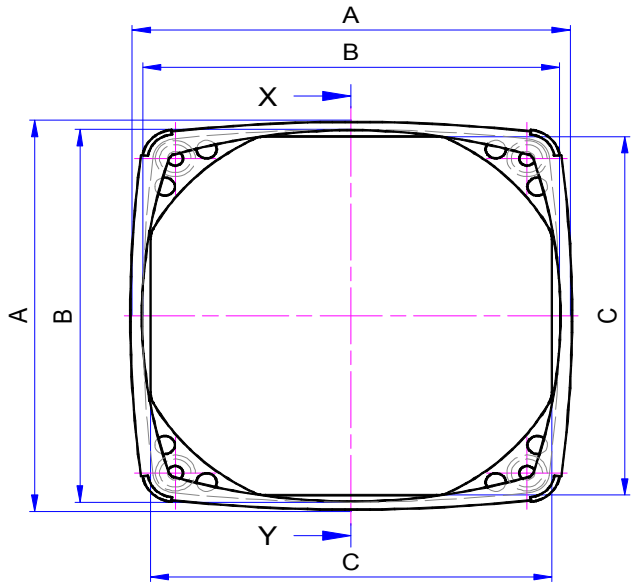
Index

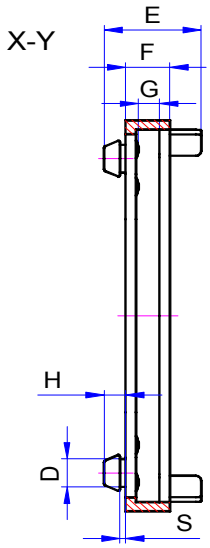


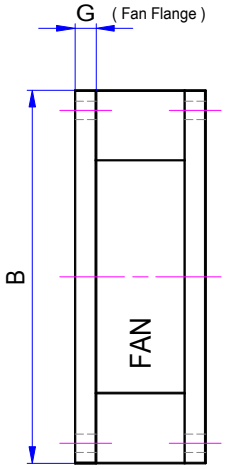


Fan Vibration Sleeves

Material: TPE (Thermoplastic Elastomer) RoHS compliant
Color: black
Hardness: ca. 70 °Shore A
Fire resistance: UL94-V-0







Ordering information:

QLM	40	20	10 or 20
Series	Fan size B	Fan flange thickness size G in mm	10 = panel thickness from 0.75 to 1.25 mm 20 = panel thickness from 1.50 to 2.50 mm

Part Number	A In. / mm	B In. / mm	C In. / mm	D In. / mm	E In. / mm	F In. / mm	G In. / mm	H In. / mm	S In. / mm	Panel Thickness In. / mm In. / mm
QLM-40-20-10	1.692 / 43	1.574 / 40	1.496 / 38	.177 / 4.5	.581 / 14.75	.207 / 5.25	.008 / .20	.138 / 3.5	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-40-20-20	1.692 / 43	1.574 / 40	1.496 / 38	.177 / 4.5	.620 / 15.75	.207 / 5.25	.008 / .20	.178 / 4.5	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-60-30-10	2.520 / 64	2.362 / 60	2.283 / 58	.197 / 5.0	.689 / 17.5	.295 / 7.5	.012 / .30	.157 / 4.0	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-60-30-20	2.520 / 64	2.362 / 60	2.283 / 58	.197 / 5.0	.728 / 18.5	.295 / 7.5	.012 / .30	.197 / 5.0	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-80-40-10	3.307 / 84	3.150 / 80	3.031 / 77	.228 / 5.8	.728 / 18.5	.335 / 8.5	.016 / .40	.157 / 4.0	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-80-40-20	3.307 / 84	3.150 / 80	3.031 / 77	.228 / 5.8	.768 / 19.5	.335 / 8.5	.016 / .40	.197 / 5.0	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-80-50-10	3.307 / 84	3.150 / 80	3.031 / 77	.228 / 5.8	.807 / 20.5	.374 / 9.5	.020 / .50	.157 / 4.0	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-80-50-20	3.307 / 84	3.150 / 80	3.031 / 77	.228 / 5.8	.846 / 21.5	.374 / 9.5	.020 / .50	.197 / 5.0	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-92-40-10	3.819 / 97	3.622 / 92	3.504 / 89	.236 / 6.0	.768 / 19.5	.374 / 9.5	.016 / .40	.157 / 4.0	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-92-40-20	3.819 / 97	3.622 / 92	3.504 / 89	.236 / 6.0	.807 / 20.5	.374 / 9.5	.016 / .40	.197 / 5.0	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-92-50-10	3.819 / 97	3.622 / 92	3.504 / 89	.236 / 6.0	.846 / 21.5	.413 / 10.5	.020 / .50	.157 / 4.0	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-92-50-20	3.819 / 97	3.622 / 92	3.504 / 89	.236 / 6.0	.886 / 22.5	.413 / 10.5	.020 / .50	.197 / 5.0	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-119-40-10	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	.866 / 22.0	.374 / 9.5	.016 / .40	.177 / 4.5	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-119-40-20	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	.906 / 23.0	.374 / 9.5	.016 / .40	.217 / 5.5	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-119-50-10	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	.945 / 24.0	.413 / 10.5	.020 / .50	.177 / 4.5	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-119-50-20	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	.984 / 25.0	.413 / 10.5	.020 / .50	.217 / 5.5	.079 / 2.0	.059 / 1.5 - .098 / 2.5
QLM-119-60-10	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	1.024 / 26.0	.453 / 11.5	.024 / .60	.177 / 4.5	.039 / 1.0	.030 / .75 - .049 / 1.25
QLM-119-60-20	4.921 / 125	4.685 / 119	4.567 / 116	.315 / 8.0	1.063 / 27.0	.453 / 11.5	.024 / .60	.217 / 5.5	.079 / 2.0	.059 / 1.5 - .098 / 2.5

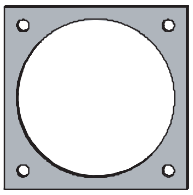
CUSTOM SIZES AVAILABLE BY REQUEST

7675 Jenther Drive, Mentor, OH 44060
Phone: 1-440-951-3300, Fax: 1-440-951-7252

Qualtek ELECTRONICS CORP.

E-Mail: mailbox@qualtekusa.com
Web: www.qualtekusa.com

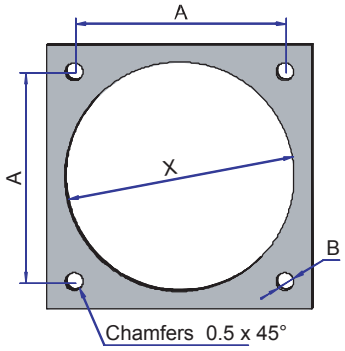
Hole layouts / Mounting



Recommended hole layouts / measurements for mounting plates and housing walls.

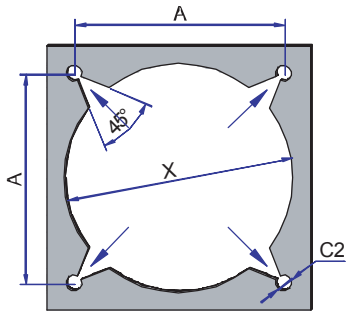
The fan sleeve can be installed independently. Four mounting layouts are recommended, depending on space considerations.

Only one of these hole layouts should be used to install the sleeve on a mounting plate or panel housing.



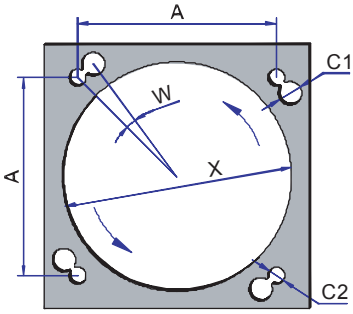
Layout 1
Push through mounting

First pull the sleeve over the flange of the fan, then place the four mushroom formed pegs through the holes **B** of the mounting plate and pull out from the back side.



Layout 2
Pull through mounting

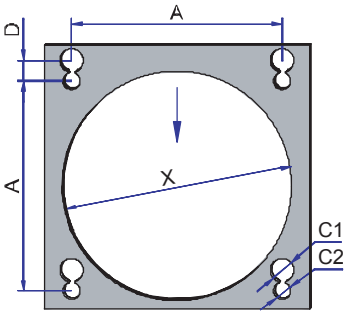
First place the four mushroom formed pegs through the 45° outbreak of the mounting plate and pull them to slide into the holes **C2.** Now put the fan into the sleeve and pull the corners over the flanges of the fan.



X

Layout 3
Turn mounting

First pull the sleeve over the flange of the fan, then place the four mushroom formed pegs through the larger holes **C1** of the mounting plate and pull with a turn into the holes **C2**.

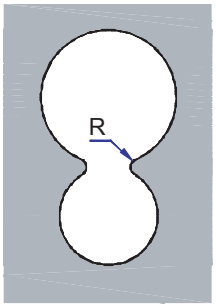


X

Layout 4
Push mounting

First pull the sleeve over the flange of the fan, then place the four mushroom formed pegs through the larger holes **C1** of the mounting plate and push down into the C2 holes

Detail X



NOTE

The size of radius R can be adjusted to alter the mounting resistance of the sleeve.

Layotu 1	is recommended if the space around the fan is restricted. NOTE: You will need space at the back side in order to pull the pegs out.
Layout 2	is recommended, when the space around the fan allows the pulling of the sleeve over the fan flanges. No space is required on the back side.
Layout 3 and 4	are the quickest ways to attach the fans provided sufficient space is available to pull or turn the sleeve and fan. Access to the back is not necessary.

Contact the factory with any special mounting requirements or questions.

Hole layout dimensions	A In. / mm	B In. / mm	C1 In. / mm	C2 In. / mm	D In. / mm	R In. / mm In. / mm	W	X
for QLM-40	1.260 / 32.0	.197 / 5.0	.256 / 6.5	.177 / 4.5	.226 / 5.75	.020 / .5 - .039 / 1.0	14.5°	Dependent on fan manufacturer
for QLM-60	1.969 / 50.0	.217 / 5.5	.295 / 7.5	.197 / 5.0	.256 / 6.50	.020 / .5 - .039 / 1.0	10.5°	Dependent on fan manufacturer
for QLM-80	2.815 / 71.5	.256 / 6.5	.315 / 8.0	.236 / 6.0	.285 / 7.25	.020 / .5 - .039 / 1.0	8°	Dependent on fan manufacturer
for QLM-92	3.248 / 82.5	.256 / 6.5	.335 / 8.5	.236 / 6.0	.295 / 7.50	.020 / .5 - .039 / 1.0	7°	Dependent on fan manufacturer
for QLM-119	4.134 / 105.0	.335 / 8.5	.433 / 11.0	.315 / 8.0	.374 / 9.50	.039 / 1.0 - .079 / 2.0	7°	Dependent on fan manufacturer

Noise Measurement Procedures

MEASUREMENT TESTING AND PROCEDURES

Date:	10.06.2003
Location:	Edel und Unedel Metall BG Sennfeld
Condition:	Sound cabin 31° C
Measuring instrument:	Brühl & Kjaer Type 2233
Level before measurement :	0 dB (A)
Setting:	L_T
Frequency range (FSD):	70---(90)
Address:	Planning office HK, Prof Urban Str. 9a; 83043 Bad Aibling
Primary Contact:	Mr. Holger Korb
Tech. Support:	Mr. Kaiser

Testing Procedures:

Condition 1: A standard PC housing of sheet metal,(460x420x190 l/h/b) with a fan (model PAPST TYPE 8412 NG 12V;DC170mA), attached with screws directly to the housing. Power supply transformer with 12 Volt level.

Measurement 1: Distance of 100 cm (X) and 150 cm (Y) with a fixed measurement device.

Condition 2: A standard PC housing of sheet metal,(460x420x190 l/h/b) with fan (model PAPST TYPE 8412 NG 12V;DC170mA) attached with rubber sleeve into four 6 mm attachment holes. Power supply transformer with 12 Volt level.

Measurement 2: Distance of 100 cm **(X)** and 150 cm **(Y)** with a fixed measurment device.

Measurment result:	**(X)** 100 cm	**(Y)** 150 cm	**Delta100cm**	**Delta150cm**
	db (A)	db (A)	db (A)	db (A)
Condition / Measurment 1 Attached with four screws	**58.70**	**50.60**		
Condition / Measurment 2 With rubber sleeve	**49.65**	**47.00**	**-9.05**	**-3.60**

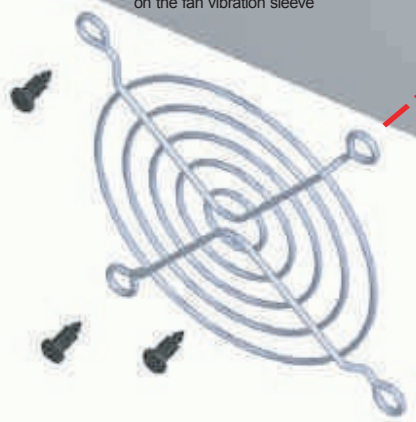
Summary: Using the rubber sleeve, the noise level was reduced 9.05 db (A) . This equates to a 15 percent noise reduction and a perceived noise reduction of one-third.

Explanation: The resonance volume and the vibration behavior of the material onto which the fan is attached are the deciding factors in the development of nosie level. Different frequencies, high or low, determine the subjective noise perception. A fan which develops noise at a higher frequency is perceived to be quieter than a fan which develops noise at a lower frequency.

Accessories allow for outside wall mounting in combination with metal finger guards or our specially developed plastic guards, filter, EMI shields / filter guards, and lamella rivets.

Metal fan guards

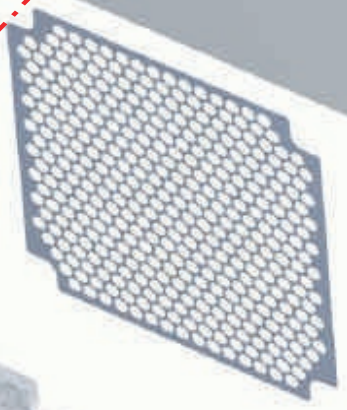
can be attached by inserting screws or lamella rivets into the holes of the mushroom formed pegs on the fan vibration sleeve



Lamella rivets

(see page 8)

The specially developed lamella rivets can be used to attach metal guard grills.



EMI shield / Filter Guard

(see page 6)

The 0.2 mm EMI Filter shield is placed under the fan sleeve, mushroom formed pegs.

Filter

(see page 7)

The special filter is placed into the guard grill and held by the guard.

Plastic Guard grills

(see page 5)

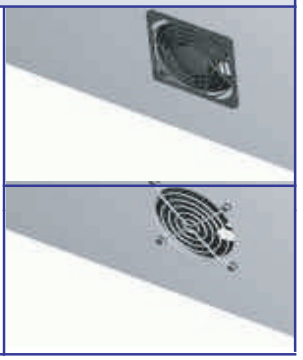
The specially developed plastic guard is attached by pushing the posts into the holes of the mushroom pegs on the fan sleeve.

Mounting information

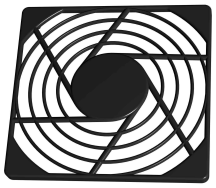
The specially developed plastic guards, filter and EMI shield / filter guards can be mounted into the holes of the mushroom formed pegs.

Metal finger guard grills can also be attached with screws or with our specially developed lamella rivets.

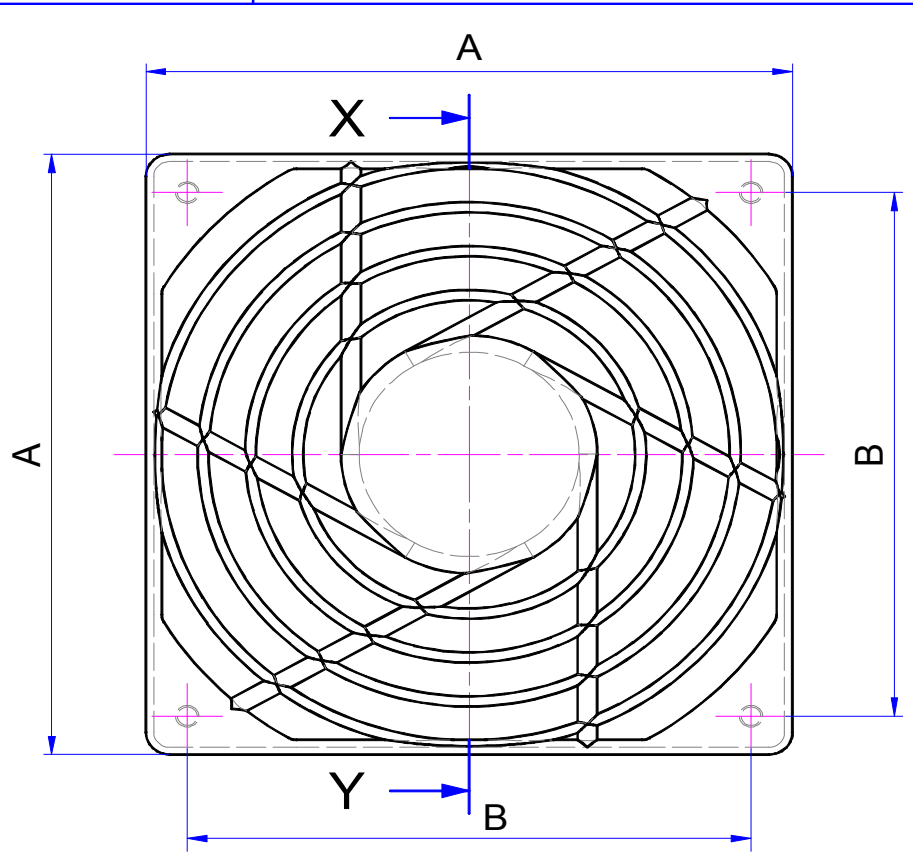
Note: The outside rivets and mushroom pegs, ensure sufficient air circulation, avoiding overheating and possible damage to the fan.

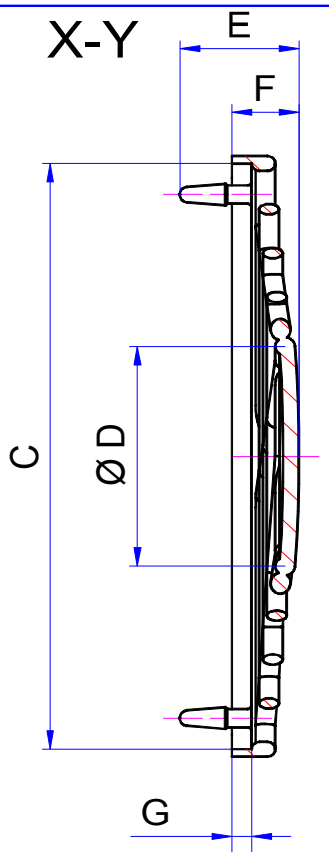


Plastic Fan Guards



Material: Plastic
Color: Black
Fire resistance: UL94-V-0
Equal guideline: 2002/95/EG (RoHS compilant)





Ordering Information

QSG	40	01
Series	Fan size	Type

Type 01 = See dimension "A". Smallest size available.
Type 02 = See dimension "A". Panel hole layout hidden. Only available in 92mm and 119mm sizes.

Part Number	A In. / mm	B In. / mm	C In. / mm	D In. / mm	E In. / mm	F In. / mm	G In. / mm
QSG-40-01	1.654 / 42.0	1.260 / 32.0	1.575 / 40.0	.709 / 18.0	.496 / 12.6	.295 / 7.5	.098 / 2.5
QSG-60-01	2.441 / 62.0	1.969 / 50.0	2.362 / 60.0	1.063 / 27.0	.594 / 15.1	.335 / 8.5	.098 / 2.5
QSG-80-01	3.228 / 82.0	2.815 / 71.5	3.150 / 80.0	1.181 / 30.0	.594 / 15.1	.335 / 8.5	.098 / 2.5
QSG-92-01	3.700 / 94.0	3.248 / 82.5	3.622 / 92.0	1.181 / 30.0	.594 / 15.1	.335 / 8.5	.098 / 2.5
QSG-92-02	3.976 / 101.0	3.248 / 82.5	3.622 / 92.0	1.181 / 30.0	.594 / 15.1	.335 / 8.5	.098 / 2.5
QSG-119-01	4.764 / 121.0	4.133 / 105.0	4.685 / 119.0	1.654 / 42.0	.654 / 16.6	.354 / 9.0	.118 / 3.0
QSG-119-02	5.039 / 128.0	4.133 / 105.0	4.685 / 119.0	1.654 / 42.0	.654 / 16.6	.354 / 9.0	.118 / 3.0

7675 Jenther Drive, Mentor, OH 44060
Phone: 1-440-951-3300, Fax: 1-440-951-7252

Qualtek ELECTRONICS CORP.

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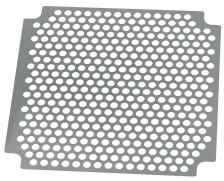
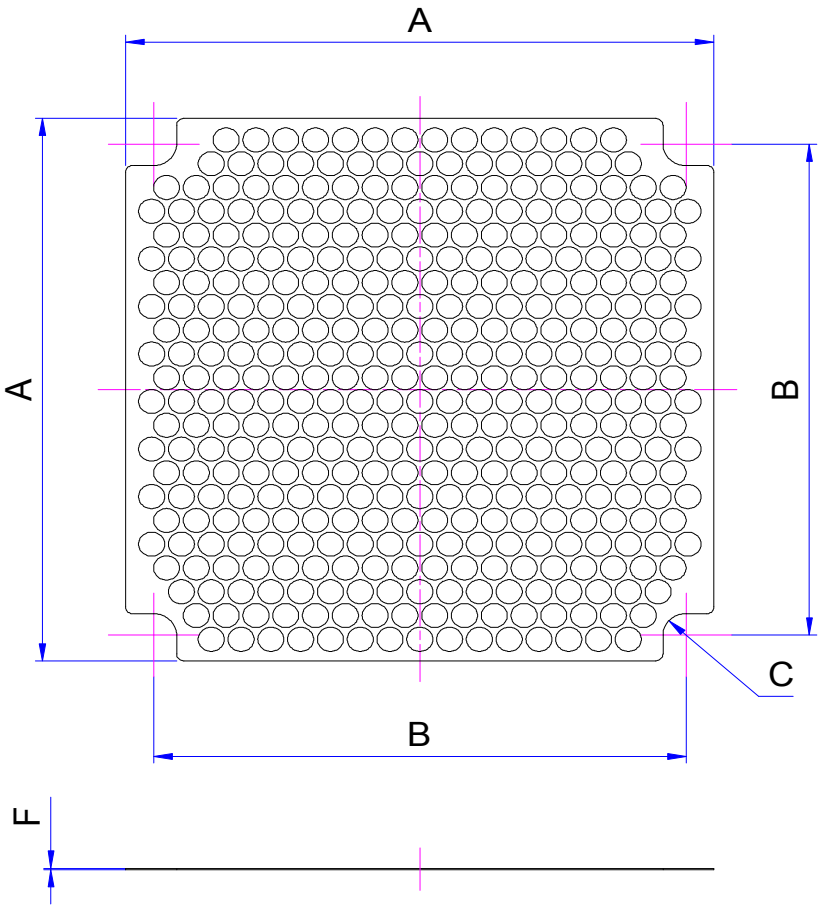
Web: www.qualtekusa.com

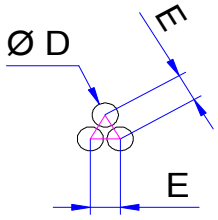
EMI Filter Shields



Material: High-grade steel (spring V2a) / Material Nr. 1.4310
Material thickness: 0.2 mm to 0.3 mm

The filter guard EMI-shield sheet is required to avoid intake of the filter into the fan should there be only one large air intake opening. It also protects against EMI/RFI transmissions if needed. The EMI filter shield can be mountd on the inside or the outside of the panel housing.





Hole removed
(Cross-section: ca. 75%)

Odering Information: **QSB** — **40** — **01**
Series | Fan size A | Type code

Part Number	A In. / mm	B In. / mm	C In. / mm	D In. / mm	E In. / mm	F In. / mm
QSB-40-01	1.654 / 42.0	1.260 / 32.0	R .094 / 2.4	.098 / 2.5	.118 / 3.0	.008 / 0.2
QSB-60-01	2.441 / 62.0	1.969 / 50.0	R .106 / 2.7	.138 / 3.5	.157 / 4.0	.008 / 0.2
QSB-80-01	3.228 / 82.0	2.815 / 71.5	R .126 / 3.2	.138 / 3.5	.157 / 4.0	.008 / 0.2
QSB-92-01	3.700 / 94.0	3.248 / 82.5	R .126 / 3.2	.157 / 4.0	.177 / 4.5	.008 / 0.2
QSB-119-01	4.764 / 121.0	4.133 / 105.0	R .165 / 4.2	.197 / 5.0	.217 / 5.5	.012 / 0.3

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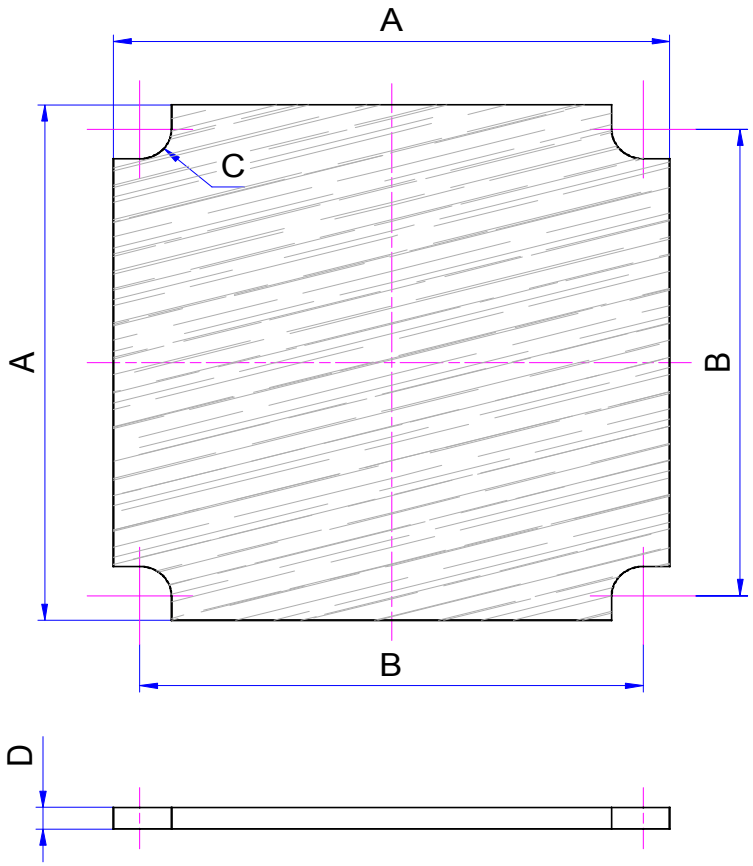
E-Mail: mailbox@qualtekusa.com
Web: www.qualtekusa.com

Filter Media

Material: Foam dust filter FL100
Filter class: G2 DIN EN 779
Material thickness: ca. 5 mm



Ordering information

QF	40	01
Series	Fan size A	Type code

Part Number	A In. / mm	B In. / mm	C In. / mm	D In. / mm
QF-40-01	1.575 / 40.0	1.260 / 32.0	R .118 / 3.0	.197 / 5.0
QF-60-01	2.362 / 60.0	1.969 / 50.0	R .138 / 3.5	.197 / 5.0
QF-80-01	3.150 / 80.0	2.815 / 71.5	R .157 / 4.0	.197 / 5.0
QF-92-01	3.622 / 92.0	3.248 / 82.5	R .177 / 4.5	.197 / 5.0
QF-119-01	4.685 / 119.0	4.133 / 105.0	R .217 / 5.5	.197 / 5.0

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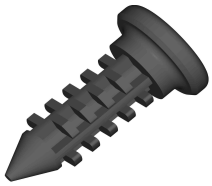
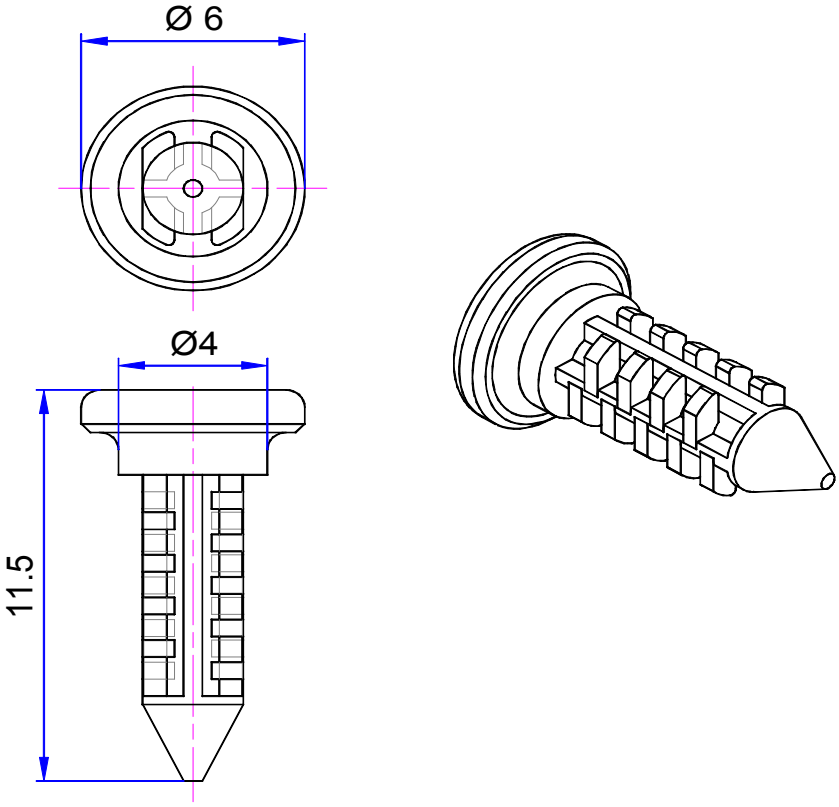
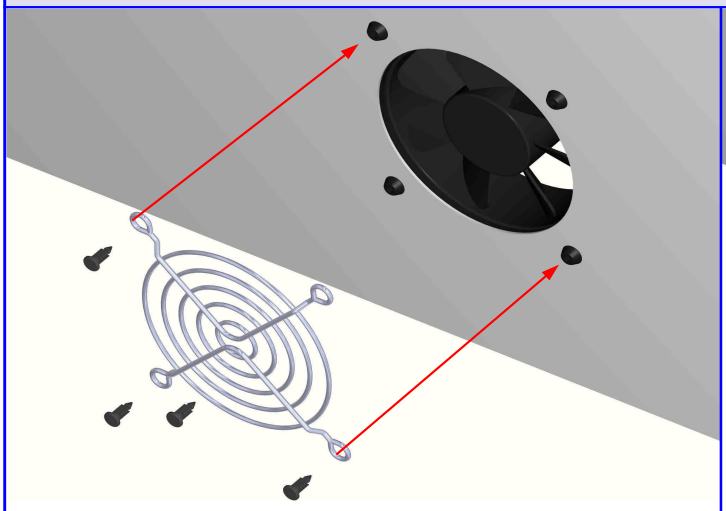
Lamella Rivets

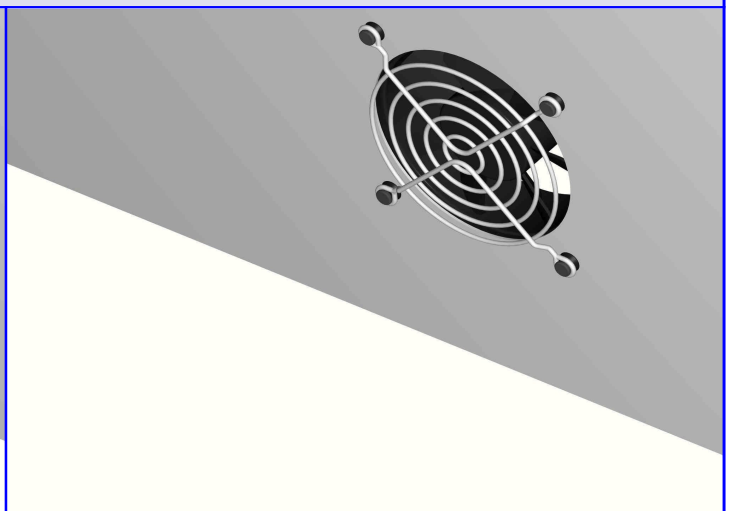


Material:	Plastic
Color:	Black
Fire resistance:	UL94-V-0
Equal guideline:	2002/95/EG (RoHS compilant)



With the specially developed lamella rivets, metal fan guard grills can be attached into the holes of the mushroom formed pegs from the fan sleeves.





Part Number		Part Number	
QLN-36-01-100	Set with 100 Pieces	**QLN-36-01-1000**	Set with 1000 Pieces
QLN-36-01-500	Set with 500 Pieces	**QLN-36-01-5000**	Set with 5000 Pieces

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