Fan Motor

* [1], [2], [3]
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A Study on Noise Characteristics by Fan Motor in a Vacuum Cleaner

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Key words : Fan Motor, Impeller, Vacuum, Diffuser, Acoustic absorbent, The white noise

1.

105 . ,
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,
.
,
. 30,000
,
.
.
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2.

, ,
,
.
Fig. 1
.
, , , ,
, , .
22 (impeller)
.
,
.

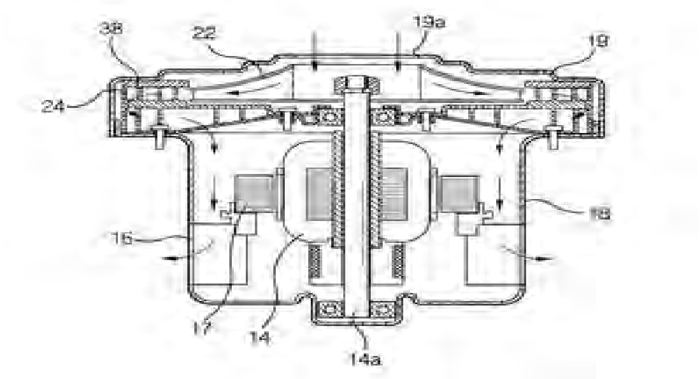


Fig. 1 A internal construction of the fan motor

.
,
, .
.

(a) 500 Hz :
(b) 1~3K Hz :
(c) 5K Hz :
(d) 9K Hz :

.

3.

3.1

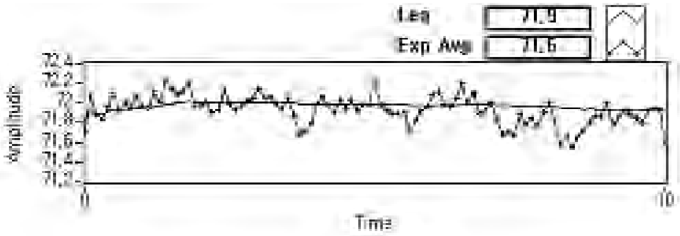
.

(V)	(W)	(RPM)	(Hz)	
220	1,130	30,300	60	9

Table 1 The specification of fan motor

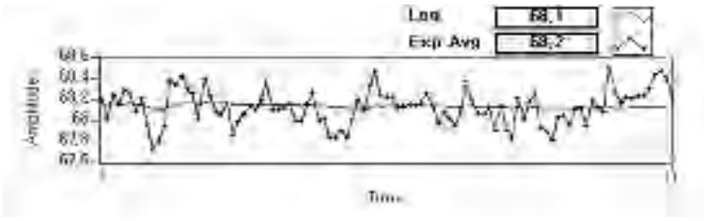
Table 1
.
(diffuser) 17 .
,
30Cm
10 .
1.5Cm
.

3.2

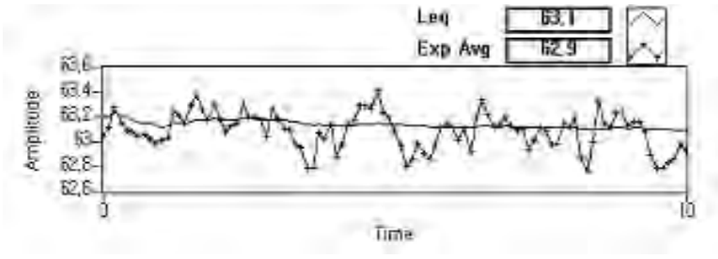


Fig, 2 The top of fan motor using non acoustic absorbent

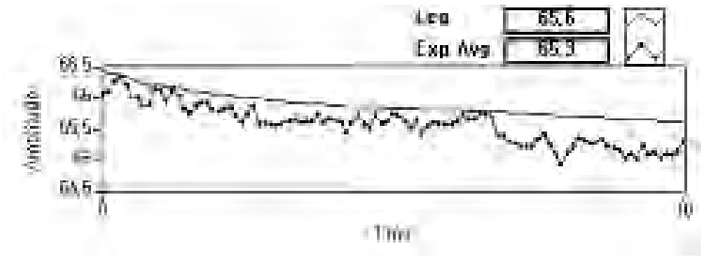
Fig, 3 The front side of fan motor using non acoustic absorbent



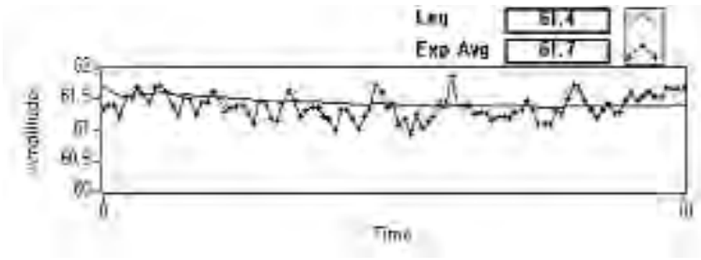
Fig, 4 The back side of fan motor using non acoustic absorbent



Fig, 5 The top of fan motor using acoustic absorbent



Fig, 6 The front side of fan motor using acoustic absorbent



Fig, 7 The back side of fan motor using acoustic absorbent

Fig. 2 Fig. 7

, , .

,

(dB)

.

Fig. 8

(dB) .

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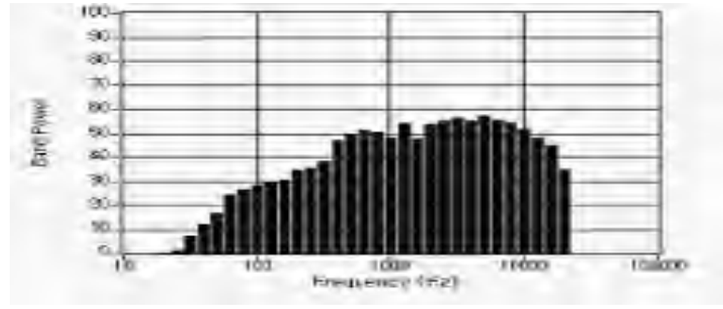

Fig, 8 The frequency and noise in the front side of fan motor

Fig. 8 . 1000 Hz 10000 Hz

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4.

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1. 1.5Cm

7~18(dB)

.

2.

,

(dB)

.

3.

.

4. 1K Hz 9K Hz

.

1K Hz 9K Hz

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,

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