

## ■ User Optimization - Point #1

You can reduce noise in your device even in high-density applications, because of the wider low-noise operating range.

The recent trend in electronics is for smaller, higher-density devices which emit heat internally. System impedance for cooling fans in such high-density devices is high, and often designers are only able to obtain about 50% of max airflow. Prior to being remodeled, this fan's application point was in the area of greatest noise however, as the GentleTyphoon Series has a wide low-noise range in area of 50% Max Airflow, it is widely applicable in various devices for reducing noise.

When designing in this new fan, our 2-Way vibration reduction technology allows users to significantly lower resonance within their products.

## ■ User Optimization - Point #2

Our 2-way vibration reduction technology protects against resonant noise throughout the device.

2-way noise reduction using (a) a large motor having low flux rotation torque and (b) noise absorbing structure; together the motor vibration transfer to the venturi is greatly reduced. When designed into your product, less noise from the fan casing results in noise suppression throughout the device.

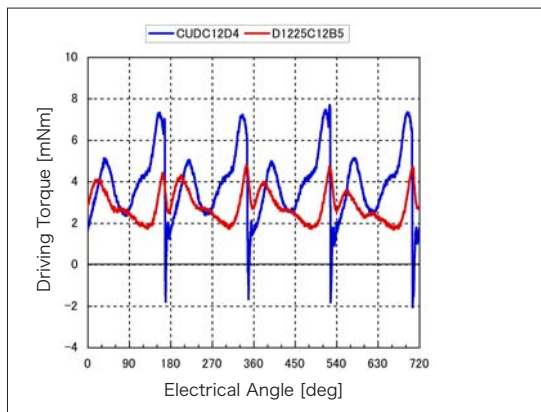


Figure-B: Comparison of driving torque variation.

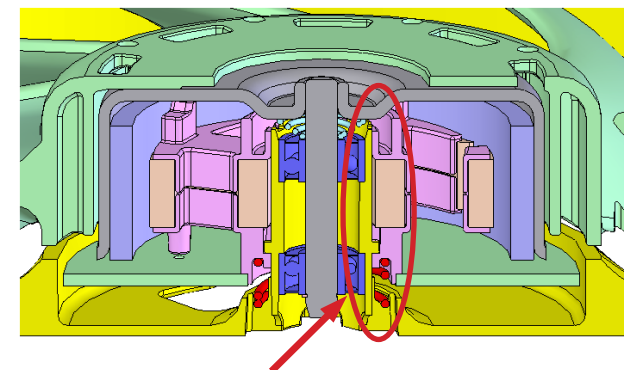


Figure-C: Inner vibration absorbing structure of the motor. (Patent pending)

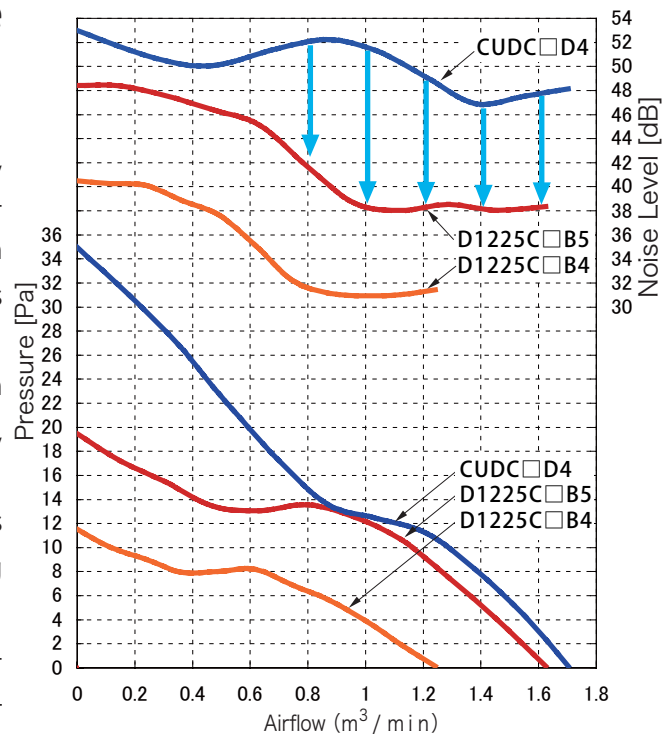


Figure-A: Comparison with our previous model.

Noise values shown (at 1m) were converted as follows: subtract 12 dB from actual noise measurements taken at 25cm (as shown in the noise graph below).

\*Implementing cutting edge technology: In cooperation with Hitachi and making use of our fluid, structural, and magnetic analysis techniques we have completely redesigned the fan motor greatly improving its performance.

## ■ User Optimization - Point #3 Energy saving.

Compared to our conventional CUDC□D4 model fan, we have significantly reduced power consumption by applying a propeller and a circuit with highly efficient designs.

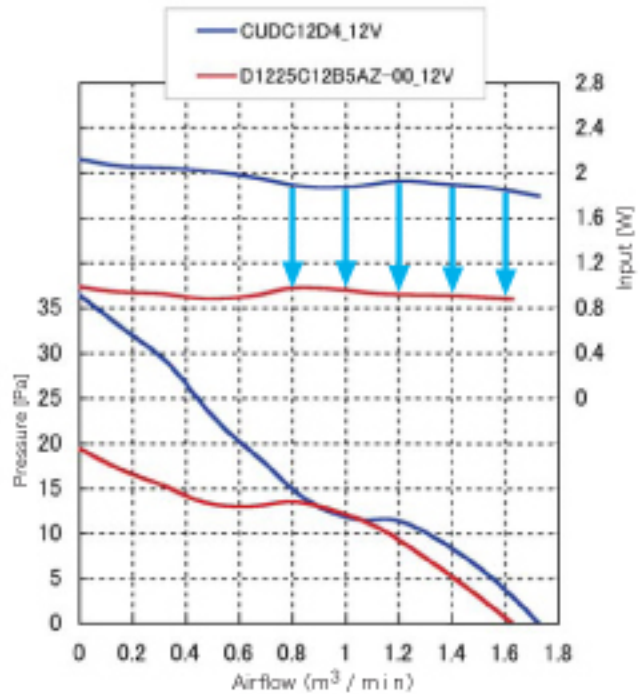


Figure-D: Input power comparison with previous model.

## ■ User Optimization - Point #4 Timbre is also a factor !!

The Gentle Typhoon is not just about reduced resonance as our engineers were particular about the quality of noise also. A smoother rotation with lowered cogging torque was achieved by optimizing motor torque exclusively for low speed applications resulting in a dramatic improvement in noise quality. From the noise spectrum comparison in Figure-E, it is easy to discern a prominent difference in the noise waves especially in the \*quiet zone. Try the improved timbre of the Gentle Typhoon in your own device.

\*Quiet Zone: areas at which noise is lowest both at high efficiency points and 70% air flow.

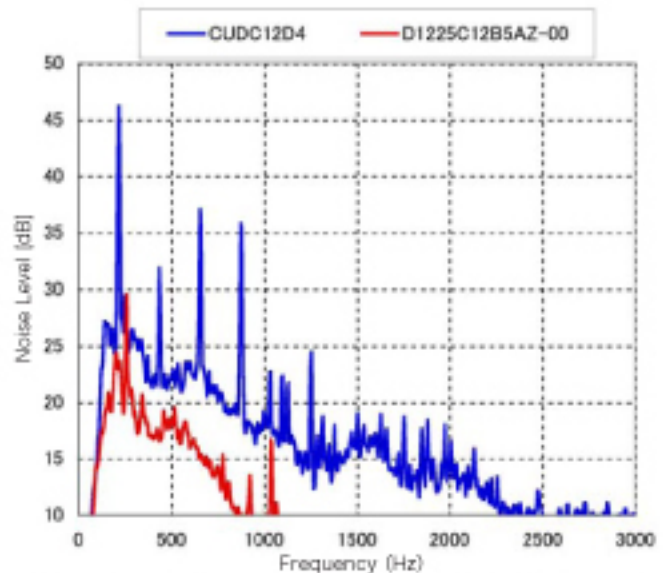


Figure-E: Noise Spectrum Analysis (Low Noise Comparison)

## ■ User Optimization - Point #5 The Gentle Typhoon is growing.

We continue to expand our Gentle Typhoon product offering.

A high speed version (Max. Air Flow over 4m³/min) is presently under development.

Please contact your local sales rep for details.