

Ferrofluid™ Damped Receiver Part Numbering System

To further assist designers in specifying the desired ferrofluid damped receiver, Knowles Electronics has adopted the following part numbering system for ferrofluid receivers:

Series Designation - “F??”

The series name will be three (3) characters, starting with “F” to indicate ferrofluid damping, followed by the existing two (2) characters of the base receiver series:

EF series → *FEF series*
EC series → *FEC series*
ED series → *FED series*
EP series → *FEP series*
EH series → *FEH series*

ES series → *FES series*
FC series → *FFC series*
FD series → *FFD series*
FH series → *FFH series*
HC series → *FHC series*

Base Model Number - “####”

The four (4) digit base model number will remain unchanged from the current non-ferrofluid damped receiver.

Suffix - “-i##” or “-k##”

Suffixes detail the amount of delta peak (Δ_{peak}) response that a particular ferrofluid damped receiver has relative to its 1kHz sensitivity. The amount of damping / Δ_{peak} response can be selected for the first resonance peak (second resonance peak in units used with BTE tubing) and will have an associated impact upon the other resonance peaks. The amount of Δ_{peak} response is selectable in 2dB increments from 2dB to the maximum undamped peak response of the receiver series in question. All damping / Δ_{peak} responses are for voltage drive conditions with ITE tubing (10mm x 1mm) into a 2cc cavity (NOTE: For FEF receivers using BTE tubing, the -i## delta peak values apply to the second resonance peak as the first resonance peak is due to the BTE tubing arrangement).

The “-i##” suffixes detail the first resonance Δ_{peak} relative to 1kHz sensitivity:

FED-1739-i02 → *First resonance Δ_{peak} of 2dB relative to 1kHz sensitivity, ITE tubing*
FES-7108-i06 → *First resonance Δ_{peak} of 6dB relative to 1kHz sensitivity, ITE tubing*
FFH-3375-i04 → *First resonance Δ_{peak} of 4dB relative to 1kHz sensitivity, ITE tubing*

The maximum possible first peak Δ_{peak} values are listed below:

*FEF series: 8.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, 4dB, and 6dB supported**
FEC series: 8.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, 4dB, and 6dB supported
FED series: 8.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, 4dB, and 6dB supported
FEP series: 8.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, 4dB, and 6dB supported
FEH series: 9.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, 4dB, and 6dB supported
FES series: 7.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, and 4dB supported
FFC series: 6.5dB max. Δ_{peak} ; Δ_{peak} values of 2dB, and 4dB supported
FFD series: 6.5dB max. Δ_{peak} ; Δ_{peak} values of 2dB, and 4dB supported
FFH series: 6.5dB max. Δ_{peak} ; Δ_{peak} values of 2dB, and 4dB supported
FHC series: 6.0dB max. Δ_{peak} ; Δ_{peak} values of 2dB, and 4dB supported

** NOTE: For FEF receivers used with BTE tubing, these values apply to the second resonance peak.*

The “-k##” suffices detail any special damping requirements or other special features needed in the ferrofluid damped receiver. Please note that “-k##” suffices will be selected on an individual model and case-by-case basis and may not correspond to the above Δ_{peak} numbering convention (-i02 for 2dB Δ_{peak} , -i04 for 4dB Δ_{peak} , etc.).

Laser Marking

Ferrofluid damped receiver units are laser marked with the four (4) digit base model number plus the appropriate suffix; examples are:

FEP-4108-i02 → Laser marked as “4108i02”
FFC-6171-i04 → Laser marked as “6171i04”
FEF-6348-i02 → Laser marked as “6348i06”
FED-7288-i04 → Laser marked as “7288i04”

The above part numbering system provides a framework for specifying ferrofluid damped receivers; however, it cannot cover all aspects of custom receiver design. As always, please contact your Knowles Electronics Account Representative for more detailed assistance relating to your individual design(s).

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NOTE: Specifications are subject to change without notice. The information on this Application Note reflects typical applications. Specific test specifications defining each model are available by requesting Outline Drawing Sheets 1.1 and Performance Specifications Sheets 2.1 of that model number. Knowles' responsibility is limited to compliance with the Outline Drawing and the Performance Specification application to the subject model at time of manufacture.