Subject: Re: Definimax 4012HO - End of Life
Posted by Wayne Parham on Sat, 07 Sep 2019 14:41:53 GMT
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Mudshark wrote on Wed, 04 September 2019 15:43Thanks to Symphonimind for suggesting the Delta Pro 12A which I'm sure is an substantial improvement. I don't mind paying a bit more for the B&C if it's significantly better. If there's any way you can help in quantifying the difference in sound quality between the two to help in making a choice it would be much appreciated.

See the following link:
Magnet structures
This shows what shorting rings do and what you can expect from them.

Mudshark wrote on Thu, 05 September 2019 08:24I found that the H290C waveguide rings like a bell when you hold it by the flange and rap it with your knuckle so I damped the two larger sides with triangles of 5mm Dedshete and it's now completely inert, so that's my DE250 setup.

Of course there is never any harm covering the waveguide with damping material, but the bell mode of the H290C is well below the passband of the device, being approximately 420Hz. And the amplitude is very low when the waveguide is mounted in the cabinet.

It's kind of like standing waves in a small subwoofer cabinet - They line up at high frequencies, above those which are presented to the cabinet. So but it never hurts to add fiberglass insulation inside a subwoofer and it also sure can't hurt to cover a waveguide with plumbers putty or other damping material to reduce the bell mode even lower than it already is.

Unmounted H290C 420Hz Bell Mode

What I've found is the amplitude of the 420Hz mode of the H290C drops considerably when it is mounted on the baffle. It sort of sounds like the frequency drops too, because it sounds so muffled. But in fact, the frequency is about the same. Mounted or unmounted, the bell mode is approximately 420Hz. But the amplitude drops considerably when mounted.

So the excitation frequencies are over an octave above the bell mode. Of course, it "lives" in the same cabinet as the midwoofer, which does generate 420Hz signals. So it is good that the bell mode amplitude is low when mounted. And I don't see any anomalies in the loudspeaker's response chart around 420Hz, so the bell mode is undetectable and inaudible. But your damping material will decrease bell mode amplitude even further.