



audio physic



Virgo 25 HF

audio physic

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Loudspeaker Audio Physic Virgo 25 plus+

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Summa cum laude

Here in the German city of Dortmund, we believe that the Sauerland region never really sees any light because of all its trees and to top it off, it rains almost all the time. It therefore comes as no surprise that this company from the region has come up with the idea of building attractive loudspeakers that will make homes even more welcoming.



The company Audio Physic can be found in the German town of Brilon, right in the middle of an industrial park located just a stone's throw away from the town's tax office. I've come here today to pick up a Virgo 25plus+ and talk about this slim floor-standing loudspeaker with Manfred Diestertich. I've been interested in the Virgo 25plus+ for quite some time, not only due to my excellent experience with an Audio Physic Tempo loudspeaker (see image hifi 1/2005) but also as a matter of principle because I have never been a fan of those huge monsters with their 15" woofers and 100kg cabinets on self-propelled carriages, aka typical 'men's speakers'. Everything that I have seen and read about the Virgo 25plus+ so far indicates that it represents the exact opposite of the dinosaur principle, featuring neither too much mass nor too little brainpower and instead boasting a combination of limited volume and extremely ambitious technology. Buying drivers on the global market and installing them in a cabinet together with a suitably coordinated crossover is something that a lot of people can do (and is also fully acceptable in certain price ranges). Manfred Diestertich, however, can do so much more. He has spent many years developing a clear understanding of how a loudspeaker should sound and the technical path it should follow whilst also remaining open to suggestions involving new materials and components. Diestertich is also open to inexplicable phenomena, for example the fact that a crossover that was initially split into two, with one part in front

of the driver and the other behind the driver, by coincidence does not produce better results in terms of figures and measurements, but does indeed sound much better than a crossover built in line with the conventional procedure. Crossovers featuring this design are, of course, therefore now a standard series feature at Audio Physic (see interview).

The Virgo 25 was launched a few years ago on the occasion of Audio Physic's 25th anniversary. It is the smallest loudspeaker in the company's Reference Line and over the years, it has gained the status of a 'test vehicle' for Manfred Diestertich, constantly being used to try out all sorts of potential new ideas. Somewhere along the way, the Virgo 25plus+ was created alongside the Virgo 25 as an unplanned, but not unintended, addition. The Virgo 25plus+ sounded much better, but was also much more expensive to manufacture, not because Manfred Diestertich, who is employed on a full-time basis as Audio Physic's Chief Designer, convinced the company's Managing Partner Dieter Kratochwil that the brainpower, heart and soul that he invested in the new model were worth their weight in gold, but due to the simple fact that its components are more expensive and it involves a more time-consuming manufacturing process. The processing of the sheets of ceramic foam that stabilise the woofer chamber of the Virgo 25plus+ is, for example, apparently a rather complex matter. It should also be mentioned that anyone who talks to Manfred Diestertich will soon realise that he considers this to be a loudspeaker like no other. He has put all of his ambition, knowledge and experience into this model. If Manfred Diestertich were an artist, the Virgo 25plus+ would definitely be a central masterpiece in his collection that clearly displays his typical 'signature'. To put it in an art historian's noble words, this loudspeaker is Diestertich's *pièce de résistance*.

I do not, however, want to use this article to initiate some kind of personality cult. In fact, I actually tend to consider every form of adoration of specific pick-up developers, single-ended triode gurus and turntable masters to be rather suspect. Developing hi-fi equipment is initially a technical activity. Most research laboratories take a pedestrian approach to their development activi-

ties and the Audio Physic laboratory is no exception, housing a measurement microphone, a soldering station and a multitude of components. Put simply, the Audio Physic research laboratory is home to the usual chaos of a creative technical workplace. It is neighboured by a room that enables the company to test and listen to prototypes and is within earshot of attentive colleagues like Stefan Dreischärf, the man who knows all of Audio Physic's loudspeakers extremely well because he is responsible for their sales and distribution. When Manfred Diestertich makes another change to a loudspeaker component, it doesn't take long for Stefan Dreischärf to react. He suspects that something somewhere has changed, but cannot put his finger on exactly what and directly reports his assessment of the situation to Diestertich. This is how blind testing works at the company in the German town of Brilon.

The Virgo 25plus+ has already been in my home for a few days when it helps me to experience a moment of crazy *furor*. The German opera singer Siegfried Lorenz sings „Ich hab' ein glühend Messer“ ('I Have a Gleaming Knife') from the Austrian composer Gustav Mahler's „Lieder eines fahrenden Gesellen“ ('Songs of a Wayfarer') (Berlin Classics 0300022BC). He is accompanied by the Gewandhaus Orchestra from the German city of Leip-



An Interview with Manfred Diestertich, the Chief Designer of the Virgo 25plus+

Heinz Gelking: The Virgo has been one of Audio Physic's most successful models since 1990. Since when have you been responsible for its development?

Manfred Diestertich: Since the Virgo III, which was launched in 2001. We then brought out the Virgo 25 on the occasion of our company anniversary. This new model boasted high-quality sound reproduction combined with unobtrusive dimensions and was therefore a typical example of our Audio Physic values and approach. In recent years, I have repeatedly used the Virgo 25 as a 'test vehicle' for a wide variety of different components and material tests. The results obtained from these tests ultimately led to the development of the Virgo 25plus+, which we completed in time for the High End trade fair in 2012.

Heinz Gelking: When I looked at the cross-sectional model of the Virgo 25plus+ I saw that it contained a number of unusual damping components. What exactly have you used?

Manfred Diestertich: Where this issue is concerned, I would tend to avoid the use of the term 'damping'. Instead of using traditional insulation wool or foams in our woofer chamber, which is subjected to the largest amount of energy, we use special components that are made of ceramic foam and are therefore both lightweight and extremely solid. These components act as additional structural elements but hardly have any effect on the volume of air inside the chamber thanks to their open pores. These pores also feature a huge irregular surface area that works like a diffuser, providing more control and a bass that seems to extend very low in frequency.

Heinz Gelking: The walls of the midrange chamber look like the acoustic panels used in conference rooms ...

Manfred Diestertich: Yes, exactly. We use these acoustic panels and special wall designs featuring comb-shaped grooves to achieve an even higher resolution, improve the loudspeaker's spatial imaging and produce a more open sound image. In fact, I can well imagine completely avoiding the use of conventional damping materials at some point in the future.

Heinz Gelking: What other features characterise the Virgo 25plus+?

Manfred Diestertich: It uses much more solid stands from our



Manfred Diestertich talking to Heinz Gelking

Avantera model and is therefore even more stable. We have also not only equipped its actual cable terminal with the new WBT 'next-gen' silver terminals but have also used these components as an adapter for the tweeter connection. The use of these silver contacts on the tweeter in particular provides huge benefits where spatial imaging and resolution are concerned and are much more successful than some of the 'miracle components' or cables available on the market. I can show you a demonstration model of the Virgo that we have fitted with a variety of different terminals and sometimes take to dealers and trade fairs. A lot of listeners are sceptical at first and do not understand how they are supposed to be able to 'hear' different connecting terminals. They all wonder why it has to be the most expensive option that comes out on top instead of, for example, a proper copper terminal that matches the loudspeaker's internal copper wiring. After experiencing the model themselves, however, the end result is always the same: the silver terminals are also the audience favourite and everyone is impressed by just how clearly they stand out from the rest.

Heinz Gelking: Audio Physic is one of a group of loudspeaker manufacturers that use drivers that they have developed themselves. You also take a very unique approach where your drivers are con-

cerned, avoiding the use of diamond tweeters, ceramic drivers, silk domes, paper cones and, in fact, anything that is currently coveted in the loudspeaker world ...

Manfred Diestertich: I am convinced that there is only one way to achieve truly homogenous sound: all drivers need to be made of the same material and have the same design. We therefore use an aluminium cone construction in our tweeter, which is specially suspended in tautly stretched netting, our midrange driver and our side-mounted woofers, which feature a push-push configuration. The fact that we only use our own ideas and visions means that we automatically develop our drivers ourselves.

Heinz Gelking: The tweeters and midrange drivers in particular have a rather unusual appearance ...

Manfred Diestertich: We designed a double basket construction for these drivers that features a solid cast aluminium basket on the outside and a basket made of plastic with impressive damping properties on the inside. By using this construction, we achieve a basket with two characteristics: a high torsional stiffness and a high level of internal damping. It also enables us to decouple the actual moving system from the loudspeaker cabinet in a much more efficient manner than the conventional approach.

Heinz Gelking: Do you build your own drivers too?

Manfred Diestertich: No, we develop them ourselves but contract other companies to construct and supply them. The production consistency offered by our suppliers is outstanding and has constantly improved over the past few years. In my opinion, the most important factor is the perfect matching of our tweeters. When it comes to our Hyper Holographic Cone Tweeter II, the HHCT II, for example, we check every single tweeter manufactured and then combine pairs with a difference of a maximum of 0.1 decibels for the production of our Reference Line.

Heinz Gelking: Do you not have any prejudices against aluminium as a membrane material?

Manfred Diestertich: Are you referring to the famous 'ringing sound'? In my opinion, every material has its own specific sound and the important thing is how we choose to handle it. We use a rubber ring to pretension the aluminium membranes of our midrange drivers and tweeters, for example, in order to effectively suppress their own influential sound. I would like to counter your question by men-

tioning the advantages of aluminium, for example the fact that you can use optimised manufacturing techniques to achieve a high level of production precision and create an extremely rigid yet lightweight cone. Try doing that with paper or polypropylene ...

Heinz Gelking: What can you tell us about the crossover of the Virgo 25plus+?

Manfred Diestertich: Its crossover frequencies are 150 and 2800 Hertz. We achieve these values by fitting second-order filters in the woofer and midrange driver. A third-order filter is connected upstream of the tweeter, particularly because I avoid using ferrofluids in the air gap for sound-related reasons and therefore automatically have to use higher-order filters. As can be expected, we only use components that have come out on top in comparative listening tests, for example the "Clarity Cap" capacitors that are specially manufactured in line with our specifications. It should also be noted that I continue to learn more and more about this area, even after decades of experience. A while ago, for example, I more or less found out by coincidence that placing crossover components both in front of and behind the driver has no influence on the measurement results, but certainly effects what listeners hear, for example placing the high-pass capacitor in front of the midrange driver and the low-pass coil behind it. Although this difference cannot be justified in terms of electrical engineering, it can certainly be heard very clearly!

Heinz Gelking: So Audio Physic doesn't always just focus on mechanical factors, which have been the company's forte since its SSC developments ...

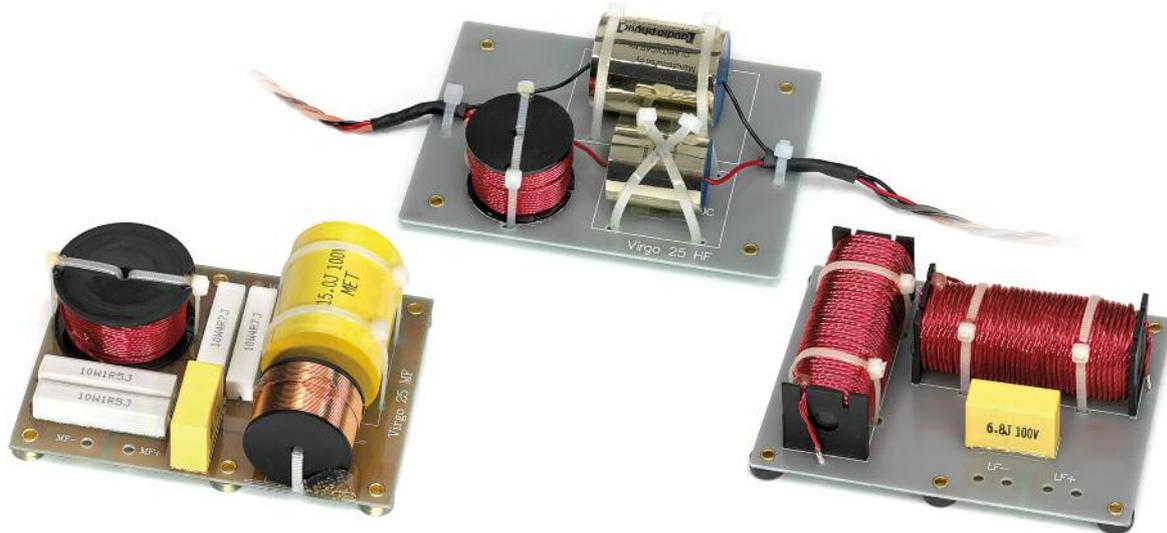
Manfred Diestertich: I still consider the use of resonance control to be an essential approach towards improving sound reproduction. Take a look at a few details of our Virgo 25plus+, for example, in which I have decoupled the crossover network, connection terminal and connectors and have not only mounted the tweeter on an SSC construction, but also used neoprene plugs to mount the other drivers. On top of this, even though the box is supplied with spikes as standard, feet developed on the basis of latest-generation SSC technology are, of course, also available as additional accessories for critical surfaces such as parquet or laminate flooring.

Heinz Gelking: Thank you for taking the time to talk to me.

Manfred Diestertich: My pleasure!



Loudspeaker Audio Physic Virgo 25 plus+



Audio Physic halves the required value for the low-pass filtering and distributes it between two identical coils. One of these coils is given an electrical position in front of the driver and the other is placed behind the driver (see above). The tweeter crossover and midrange crossover feature similar designs

zig, in which the conductor Kurt Masur provides a much higher tempo than his counterpart Rafael Kubelik in the famous recording of the song with the singer Dietrich Fischer-Dieskau. The high tempo of the Lorenz version is not the only reason behind its dramatic impression. Another reason is that fact that Lorenz, the baritone from East Berlin, has an extraordinarily lyrical voice with a rather bright timbre, even brighter and more lyrical than that of his colleague Fischer-Dieskau from West Berlin, who isn't exactly known to be a musical brute. Anyone who has already experienced Lorenz' voice, perhaps from his refined recording of the Schubert Cycles, will be astounded by the nothing less than delusional tones to which they are treated in this song. This contrast

is the truly explosive part of this musical experience. If we, or at least us opera fans, weren't already so numb after being constantly confronted with jealousy, infirmity, betrayal, violence, murder and homicide on the virtual stages that can be found between our loudspeakers, this song would definitely make our blood run cold. As we hear the line "Ich wollt' ich läg auf der schwarzen Bahr ..." ("I wish I were laying on my black bier ..."), it is clear that the protagonist is completely beside himself as a result of his spurned love and it seems as though only a small step is separating the symbolism (the knife in his chest describes his pain and is not literally there) from the action itself (give him a knife and he will commit hara-kiri). The voice reproduction of the Virgo 25plus+, however, remains extremely true to life throughout the protagonist's entire ordeal. It provides a fascinating presentation of Siegfried Lorenz' dramatic performance, from his vitality through to his colouring of vowels and pronunciation and right through to his shocking transition into a resounding tone from deep within his chest that is more declaimed than it is sung as he belts out the line: "Ach, was ist das für ein böser Gast, nimmer hält er Ruh', nimmer hält er Rast ..." ("Oh, what an evil guest this is! It never gives you peace; it never lets you rest



All of Audio Physic's drivers are manufactured externally but developed internally. This enables the company to also deal with special requests such as a 'basket in basket' system made from different materials

...'). I don't know of any other loudspeaker from which I could hope to receive an even more intense reproduction of this piece, let alone one from which I have actually already heard even more intensity.

Nevertheless, I must also draw attention to the fact that this intense reproduction is not as ostentatious as the sound produced by some other loudspeakers, above all those that are optimised when it comes to reproducing lower midrange and midrange tones and enable their listeners to virtually examine singers' voice boxes close up with a magnifying glass. It also does not compare with the over-analysis of would-be resolution wonders that produce sounds that are true to detail, but rather weak in terms of power. If the recordings allow it, the reproduction of aria, tunes and songs has two main aspects: coherent proportions and an astounding (and naturally virtual) presence of the performers. As I listen to my Virgo 25plus+, I do not see artists belting out their tunes before me, but instead the excellently focused minds of singers with radiant faces as they sing with ability and fervour, regardless of the genre in question, of course. In fact, artists such as Tom Waits, Blixa Bargeld, Josefine Cronholm or Björk, for example, would have been just as ideal as Siegfried Lorenz. Put

simply, the voice reproduction of the Virgo 25plus+ is truly excellent.

Loudspeakers with side-mounted woofers are sometimes difficult to set up but my experience with the Virgo 25plus+ was quite the opposite. Needless to say, nobody can immediately achieve optimum performance from the Virgo 25plus+ within just 30 minutes of use. Nevertheless, it is also important to remember that we are not talking about a beginners' loudspeaker here. The development of the Virgo 25plus+ has been pushed to the limit for both critical and experienced listeners and nobody needs to remind such customers that parameters such as the loudspeakers' angle to the listening position or their distance from the back wall or side walls have an effect on the sound produced. Such li-



Loudspeaker Audio Physic Virgo 25 plus+



The complex cabinet of the Virgo 25plus+ almost manages to do without conventional damping material and instead uses acoustic elements in its midrange chamber and ceramic foam sheets in its woofer chamber

steners are certainly also able to assess what they hear whilst setting up their loudspeakers and come to the right conclusions and can therefore, either on their own or with the help of their authorised dealer, progress towards achieving optimal results. In my case, the Virgo 25plus+ produced the best results when placed nearly a metre away from the side wall and a shelf mounted on the wall to act as a diffuser and a good metre away from the back wall, which is home to my record shelves. I used my tried-and-tested recording of adaptations of works by Rossini performed by the Ma' a lot Quintet (MDG 3451583-2) to help me to find the ideal angle for my new loudspeaker.

While wider angles produce a wider virtual stage, tighter angles make the instruments in the stereo centre sound even more three-dimensional and present. After experimenting with different angles, I reached a point at which it felt like I could sit in my listening seat and stare directly into the recording studio. Everything was perfect, also in terms of tonality: You need to do away with all of your preconceptions with regard to the bright sounds of aluminium cones, just like I did when experiencing the 'colourfastness' of flutes, clarinets, oboes, horns and bassoons. The Virgo 25plus+ sounds neither bright nor dark and neither warm nor cold, but instead produces fascinatingly realistic sound that is truly beautiful, especially in the case of natural instruments.

As far as I can remember, even compact loudspeakers that are optimised time and time again in terms of their spatial imaging, for example the Chario Academy Sonnet (image hifi 3/2007), are barely any better than the Virgo 25plus+ when it comes to this discipline. This loudspeaker transforms the one-point recordings made by Denon with Eliahu Inbal and the Radio Symphony Orchestra in the German city of Frankfurt 25 years ago using just two microphones (re-released in: Brilliant Classics 99999), for example „Harold en Italie”, into an audiophile celebration thanks to its striking spatial depth and the harmonious proportions and dynamic relationships between the viola solo (by Yuri Bashmet) and the orchestra. The Virgo 25plus+ is able to yet again showcase the potential of these underrated early digital recordings. These successful sound reproductions give me the idea of hosting my own private Berlioz Festival over the next few evenings, enjoying recordings of the “Symphonie fantastique” and the “Requiem”.

It is most probably already very clear to you that I am absolutely thrilled by the Virgo 25plus+. The question is: do I not even

have an ounce of criticism to share? When compared with loudspeakers with woofers in conventional positions, namely on the front wall of the cabinet, as is the case in my Revel Performa F32, the Virgo 25plus+ is not quite as relentless when it comes to pushing and shoving in the bass range. The American Performa model sounds hard and precise while its counterpart from the German Sauerland region has a more elastic and graceful sound. The astounding homogeneity of the Virgo 25plus+ is also helped by the fact that its bass reproduction sounds more like a seamless extension into the depths of its lower midrange region than an independent stage of the overall sound reproduction.

I can definitely say that I do not know of any other three-way floor-standing loudspeaker that comes close to this Virgo model in terms of homogeneity when used with the relatively short distance to the listening position present in my listening room. There is nothing separating the two loudspeakers where their high definition and fine dynamics just above the lower crossover frequency are concerned (in which the 30 Hertz specified by the manufacturer are fully realistic). They certainly both reproduced my beloved test instrument, the double bass in the “Trout Quintet” by Franz Schubert (MDG 3070625-2) with a similar amount of edge and naturalness that met all of my expectations.

While I sit here and try to write my conclusion, the Virgo 25plus+ makes it seem like the musicians from the Aurny Quartet are standing right in front of me and let me enjoy my share

of the concentrated energy involved in the plucked tones at the beginning of the second line of “Assez vif. Très rythmé” from the String Quartet by Maurice Ravel (Tacet 118). This music from the turn of the century in France, which received a rather critical response from the conservative composer Gabriel Faure, to which the piece was dedicated, sounds so fresh and unconventional and features such smooth and full-bodied tones that it truly is one of a kind. The loudspeaker itself is barely even noticeable and fully allows the music to take centre stage. In fact, it’s so good that I can’t even think about working right now. It would be better to simply turn off my laptop and completely focus my attention on the fine recordings of this String Quartet, which is exactly what I’m going to do. Come to think of it, this decision is actually a conclusion in itself: The Virgo 25plus+ is a dream of a loudspeaker that will easily make you fall under its spell and nobody knows that better than I do! □

Loudspeaker Audio Physic Virgo 25 plus+

Design principle: three-way bass reflex

Sensitivity: 89 dB/W/m **Impedance:** 4

Ohm **Veneers:** oak, black ash, cherry, ebony, walnut, white, black **Dimensions (W/H/D):** 23/106/40cm **Weight:** 32kg

Warranty: 10 years for the first registered owner **Price per pair:** 9900 EUR

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