ON TEST:
internal power filters

Jeremy Gay powers up 13 internal filters and throws everything he can at them!

Internal power filters are the most popular form of filtration for aquariums in this country and there are loads to choose from. I contacted the manufacturers and asked them to send me their choice of filter for an aquarium of around 90cm/ 36." I'm not a scientist but I am experienced with all types of internal filter and above all, I am a keen hobbyist who wants the best for my fish; the filters given my best reviews were those that did well in a number of situations, leading them to be the best overall package for the consumer.

How I tested

I used a bare tank, filled with tap water and at room temperature. The filters were removed from their boxes one by one and close attention was paid to the fitting instructions and ease of assembly. The filters were fitted as recommended, just as you would use them at home. Those with flow adjusters were set so they were on full; any additional venturi devices were switched onto full power.

They were plugged in for 24 hours a day and tested for several weeks of continuous operation. As part of the review, I paid particular attention to several aspects including clear, informative instructions, flow control, aeration capabilities, choice of media, amount of media (two sponges are better than one for alternate cleaning,) solids handling capabilities, impellor access and ease of use and general maintenance.

Retail prices of filters weren't a major consideration in this review, because it's a buyers' market and most outlets set their own prices.

I did compare power consumption in watts with output, though, as this gave me an idea of the efficiency of their power output.

Internal power filters are increasingly being asked to do more and more by us and are commonly used as the only form of filtration. If the filter stops for some reason, problems can occur and the filter usually gets the blame.

Crud catching

Every few days I added a number of contaminants to the water and observed how each filter reacted.

During the first week I poured bucketfuls of gunge from existing tanks into the water to see how each filter sponge dealt with it; I was looking at how the gunge was then distributed around the sponge of each of the filters on test. The ideal was an even distribution of debris across the entire sponge surface area, meaning no channelling had occurred.

The second test was to see how well the filters coped with plant leaves. This is a real obstacle for both internal and external filters as floating leaves can stick to the intake and seriously reduce the flow. So over several days I liberally scattered aquarium plant leaves and stalks onto the water and watched how all the filters on test coped.

The third test was to see how well they handled solids. I took a few handfuls of Oasis pond soil and threw it into the aquarium. The soil is made up of all sorts of different particles, ranging in size from 2-3mm soil particles, to sand and gravel, and dust size particles. Two of the 13 tested stopped during this test, and some may argue that they would never have to deal with soil like a pond pump would, but my point is that only two did stop – the rest battled through it and continued working, proving just how tough these filters are.

The final test was for maintenance. After all the punishment I had put them through, how did they do when it came to cleaning? For this test I looked closely at how easy they were to remove from inside the aquarium, whether they dropped dirt back into the tank as I removed them, and how easily I could take them apart and clean them with wet hands.

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BEST INTERNAL FILTER

Eheim Aquaball 2212

Eheim has just introduced this new version of the Aquaball which includes some new features and has a three-year guarantee. It should be in the shops by the time you read this.

Designed around its versatile ball and socket type powerhead attachment, this filter enables you to point the outlet in any direction you want. It connects onto a series of modular cages, each with its own sponge, but one or more of the cages can be fitted with Ehfisubstrat pro ceramic biological media and with a carbon impregnated or fine filter, circular pad. These options make it very versatile. And with multiple chambers you can replace or wash sponges alternately. The flow is adjustable and the filter comes complete with a venturi. The filter attaches to the tank glass by a sturdy clip and strong rubber suckers.

In all the tests the filter did very well; this may well be because the cage is covered in intake slots, causing a massive surface area to draw in water. This creates low velocity, allowing leaves to slide off the cage and keeping water flow free throughout. On inspection of the sponges, the dirt distribution was incredibly even all over, including inner and outer surfaces, and the sponge in the bottom canister was just as dirty as the top one.

When maintaining the filter, dirty water and detritus are held within the bottom of each cage, preventing leaks. Impellor access is simple and the instructions mention washing sponges alternately and recommend upgrading one of the media baskets to include Ehfisubstrat pro, their biological media.

Powerhead output isn't huge when comparing the Aquaball to other brands, but because it maintains its flow so well, it compares more favourably because some filters in the test had such a noticeable drop-off in flow. Maximum output is 650 lph. /143 gph. Extra media canisters can be bought and added on, along with three different nozzles and a spraybar set.