

# JBL



## Save energy in your aquarium!

How energy conservation  
and environmental protection work today



[www.JBL.de](http://www.JBL.de)

## Save energy in your aquarium!

### How energy conservation and environmental protection work today

Aquatics is too wonderful a hobby for you to give up just because of rising energy costs. Nowadays, there are numerous ways to achieve significant savings in energy costs and take additional steps to protect the environment. In this booklet, we would like to give you 5 tips for doing just this.

#### Tip 1: Save heating costs!

Most of the heat lost from an aquarium for tropical fish with a water temperature of around 25 °C escapes from the surface of the water and through the glass panes. Under the aquarium, a tank pad such as the **JBL AquaPad** already insulates against heat loss. We don't dare alter the front glass pane, as we want to be able to see our tank inhabitants. The back panes and side panes, though, can be effectively covered with Styrofoam panels. A full hood also helps prevent heat from escaping through the water surface. Open tanks with pendant lights exhibit a significantly greater loss of heat.

Internal filters release the (moderate) heat from the motor into the water, thereby supporting the aquarium heater. External filters exhibit a moderate loss of heat through the hoses and the surface of the filter body. Accordingly, internal filters are more favourable energetically.

How much or little the room where the aquarium is kept is heated also forms an important factor. If you can choose from two rooms, place your aquarium in the room with the higher room temperature. Then the aquarium heater only needs to make up the small difference between the room temperature and the desired water temperature.



## Tip 2: Save power when filtering!

Technology is also advancing in the area of aquarium filter construction, so that there are now pumps available which consume **43 % less power** than just a few years ago! You save € 26 in electricity costs with the **JBL CristalProfi e1501 Greenline External Filter** compared to the preceding JBL External Filter model. The purchase of the new filter would already pay off after six years. Incidentally, **all of the JBL filters have a guarantee period of four years!**

e701 180 x 210 x 350 mm	e901 180 x 210 x 405 mm	e1501 200 x 235 x 460 mm
700 l/h	900 l/h	1400 l/h
60-200 l	90-300 l	200-700 l
9 W	11 W	20 W
230 V / 50 HZ	230 V / 50 HZ	230 V / 50 HZ
6,1 l	7,6 l	12 l
1 x 1,1 l 2 x 1,2 l	1 x 1,1 l 3 x 1,2 l	1 x 2,3 l 3 x 1,9 l

  

Energy savings compared to the preceding model		
↓ 35 KWh/a	↓ 35 KWh/a	↓ 131,4 KWh/a
7 €/a**	7 €/a**	26,28 €/a**
28 €/4a**	28 €/4a**	105,12 €/4a**

\*\*at 0.20 € per KWh



# greenline

Today, you can even achieve power savings with internal filters: **The new JBL CristalProfi i greenline range** likewise offers significant savings potential. A medium JBL internal filter (CP i 80 greenline) saves € 12.20 energy costs per year. The purchase already pays off in three years due to the power savings.

<b>i 60</b> 85 x 85 x 155 mm	<b>i 80</b> 85 x 85 x 225 mm	<b>i 100</b> 85 x 85 x 295 mm	<b>i 200</b> 85 x 85 x 365 mm
420 l/h	420 l/h	720 l/h	720 l/h
40-80 l	60-110 l	90-160 l	130-200 l
4 W	4 W	8 W	8 W
230 V / 50 HZ	230 V / 50 HZ	230 V / 50 HZ	230 V / 50 HZ
1x 0,25 l	2x 0,25 l	3x 0,25 l	4x 0,25 l
 <b>Energy savings compared to the preceding model</b>			
↓ 61 kWh/a	↓ 61 kWh/a	↓ 26,25 kWh/a	↓ 26,25 kWh/a
12,2 €/a**	12,2 €/a**	5,25 €/a**	5,25 €/a**
48,8 €/4a**	48,8 €/4a**	21 €/4a**	21 €/4a**

\*\*at 0.20 € per KWh

Please **NEVER** try to save power by turning the filter off at night!



# greenline

This kills all the beneficial filter bacteria inside the filter and leads to decay processes! When the filter is turned on again in the morning, harmful substances are pumped into your aquarium, poisoning the water!

Incidentally, reducing the flow rate by turning down the flow control lever situated on the hose connection block does NOT result in any energy savings, as the pump continues to run at the same rotation speed.

If you wish to use an ammeter to determine the actual power consumption, please bear in mind that: every ammeter can measure heating and lighting. Things are a bit different when measuring pumps, though: the special manner in which pumps function (magnet rotor) results in a phase shift known as Cosinus Phi. Your ammeter must take account of the Cosinus Phi factor so that magnet rotor pumps can also be measured correctly. This should be indicated on the packaging.

### Filter optimisation:

Remember that your filter can do much more than remove dirt particles from your tank water! **JBL offers a selection of 16 different filter media** plus matching filter cartridges which are specially suited for the corresponding JBL filter. You can remove substances such as the algae nutrients, phosphate and nitrate, from the water with the help of special filter media. In this way, you can actively combat algae problems without having to use an algacide.

### Tip 3: Optimise your aquarium lighting!

Unfortunately, aquarium lighting does not perform well compared to nature. The sun supplies a light level of 100,000 lux at noon in the tropics. A good T5 aquarium tube supplies around 1400 lux, which is only 1.4 %. Therefore, it is worthwhile giving some thought to your aquarium lighting.

Power losses: There are different kinds and qualities of electronic ballasts which are “connected upstream” from the fluorescent tubes. Electronic ballasts are more efficient than conventional electronic ballasts, as they convert less power into heat loss. On the other hand, they come at a higher cost.



There are two different types of fluorescent tubes: The slim tubes of 16 mm diameter are known as T5 tubes, whereas the tubes with a diameter of 26 mm are known as T8 tubes.

The energy efficiency of the slim T5 tubes is better than that of the fatter T8 tubes. A T8 tube of 90 cm length with 30 watts produces a light level of approx. 700 lux at a distance of 10 cm. A **T5 tube** of the same length has 45 watts, i.e. 15 watts more, but produces **100 % more light** with 1400 lux!

Switching from T8 tubes to T5 tubes, though, also means switching the electronic ballasts, which are not suited for both types of tubes. **Unfortunately, it is NOT possible to simply replace the T8 tubes with T5 tubes.**

However, there is one step that everyone can take immediately: **you can double the amount of light**



**with good high-output reflectors!** All you need to do is take the enclosed clip and fit a reflector behind your fluorescent tube. Now, the high-gloss aluminium will reflect all the light rays towards the water surface. Your aquarium will shine in the extra light and your plants will look fabulous.



If you are interested in LED lighting, make sure to check whether the light efficiency at least corresponds to that of T5 tubes before making your purchase. A glance at the actual power consumption is also urgently recommended. It is only very rare that LED bulbs result in savings, not to mention the high cost of purchase.

### Tip 4: Reduce the costs of food!

**Don't ever save on the quality of the food you buy!** This applies to humans and fish alike. You can, though, easily save on packaging: Accordingly, JBL offer a refill pack for the JBL NovoBel main food. This refill pack can simply be inserted into the empty one-litre container and then sealed with the lid of the container. This is important, as light and air are a high-grade food's worst enemies. Also, please make sure to use up your fish food within three months after it is opened for the first time. After these three months, the vitamin content of the food decreases significantly, to the effect that vitamin deficiency may occur,



making the fish susceptible to disease.

**It may interest to know that no fish are expressly caught for JBL's food production.** JBL use fish fileet remains which are left over from fileet production for human consumption. In this way, JBL actively protect the fish populations in the world's oceans.



### Tip 5: Reduce packaging waste!

There are two maintenance products which aquarium fish keepers regularly use and need to purchase: These are

the water conditioner which turns mains water into aquarium water that is suited for a biotope and the basic fertiliser for the aquatic plants which is essential for healthy growth. For both of these products, JBL offers refill packs which contain 125 ml more free

of charge and sustainably preserve the environment. **One lorry load of empty refill packs corresponds to 17 lorry loads of conventional hard packaging.** Besides reducing waste, CO<sub>2</sub> emission during transport is reduced by a full 94 %!



Join in! Fish keepers, too, are conservationists and can save money by being clever!

If you happen to have a good idea for saving energy or raw materials, send us your idea by emailing to: [info@jbl.de](mailto:info@jbl.de)

Your JBL Team wish you lots of fun with your aquarium!



# JBL

*Your specialist aquarium supplier  
will gladly advise you and  
recommend further literature.*

*JBL-Info-BROCHURES  
are available from your aquarium supplier  
on other aspects of aquarium-keeping.*

**Your specialist supplier**

Published by  
JBL GmbH & Co. KG  
67141 Neuhofen/Pfalz  
Germany  
[www.jbl.de](http://www.jbl.de)

1. edition 2013  
Texts: Heiko Blessin  
Photos: JBL Archiv, K. Kief, fotolia.de, etc..  
Layout: gingerjam.de

Art.Nr. 9728510 00 V01



4