

Kelvin Series: T12, S24 & S36

The Kelvin Watercooling is an open loop DIY system, a perfect option for those users looking for powerful water cooling with the benefits of a DIY system provides and the conveniences AIO systems deliver. Kelvin allows you to expand and improve the cooling for your system like the professionals. Should you encounter any issues during installation or operation of your Kelvin system, please don't hesitate to contact Fractal Design Customer Service department before contacting your local dealer. Fractal Design is ready to assist you by offering a high level of service. Please use the below guidelines for trouble shooting should you come in contact with any issues with your Kelvin system.

Pump Safety

The Kelvin pump has been tested and equalized to an optimized level for peak performance within the system, taking into consideration the best balance between speed vs noise. Some may be inclined to conduct voltage control of the pump in efforts to further improve the silence of the pump however changing the pump speed or voltage may hinder performance as it may result in the pump not working forcefully enough to run the system as best it can. So we suggest everyone to keep the 12V – You may be surprised with the low noise level. If you let the Pump run below the 12V Standard Voltage you may risk deformation of thermal parts within the system, which will likely result in leakage.

To avoid any damages and to keep the warranty, is it important that you check the main board settings to ensure the CPU fan speed and thermal overheat control has been activated. Please also check that your pump connector has been connected correctly with the CPU fan connector at the mainboard.

Noise and Performance

When it comes to performance and noise settings, it is physically possible to change the acoustics of the entire system by adjusting the speed of the pump and fans, however we strongly suggest you do not change the pump speed levels. A low pump speed can allow for damages which are not protected by the warranty. The radiators of the Kelvin have been optimized for fan speeds as low as to 1000RPM. Please note that the out-of-box Kelvin system setup is optimized for all standard thermal loads. If you modify any speed, please do this at your own risk.

Mounting of Pump Unit

The compact Kelvin pump unit housing comes together with a mounting set. It is very important to have the right amount of force to your CPU and therefore to have a perfect contact pressure that you use a crosswise way for screws which you screws into the retention kit or in the mounting set.



Radiator Mounting

The Kelvin radiators come with screws that are perfectly fit and adjusted in length for the most precise mounting of the radiator in any chassis. If you use other screws, for example if you lose the originals included with your Kelvin system, and those screws are not screwing in smoothly into the radiator with ease, please stop and do not force the screws any further. Do not use any force while screwing into the radiator mounting thread. As a precaution, we have added two metal layers on the radiator at the end of the mounting thread to avoid any damages to the copper rails. Please be aware that if you apply force with any screws into the radiator, you may run the risk of leakage, which will not be covered by the warranty.

We encourage you to only use the original screws to avoid encountering any issues mentioned above. If you are missing any screws upon delivery of your Kelvin system, please contact Fractal Design Customer Service department to request replacements.



Radiator Appearance

As for all Fractal Design products, the design of the Kelvin series is very important to us. We have carefully and strategically chosen materials that will look and work best in our systems. When looking at the radiator, you may see what you think is rust in and around the fins. This is NOT rust – we only put on a very thin coat of paint onto the radiator fins in an effort to not affect the performance of the copper too much. The fact that the fins have a rusty look is because it is the natural colour of the copper coming through, and does not affect any level of performance. To improve the performance of the radiator, we keep the paint coating within the fin array thin so that it allows air be in contact with the original copper fins. Alternatively, if the copper fins were to be coated in thick paint for the sake of appearance, performance would be hindered as the fins would be isolated from airflow and the performance of the radiator would decrease significantly. The design of the Kelvin series is optimized for the best balance between performance and a beautiful look and feel. Any damages to the radiator channels will cause system leakage, which will be not be protected by the warranty.



Choosing System Parts

Swapping out the original fittings

When modifying or swapping any fittings in your Kelvin system, it is imperative to pay attention to the length of the fitting threads. Kelvin supports max. 5mm thread fittings. The thread fittings are of the German Industrial Standard, DIN, and the Kelvin system only supports these thread fittings. We can only provide the warranty for fittings from brands Fractal Design, Alphacool, Phobya and Aquatuning. If you wish to use other fittings for your project please ensure they are produced under the DIN standard – If leakage occurs while using other standard of fittings, this will not be covered under Fractal Design warranty. The Kelvin fittings are built for the specific systems and have an outer dimension of 13mm (1/2”).



Swapping the original tubing

If considering to change the original tubing, please be aware of the risk you run on your Kelvin watercooling system. ROHS – and BPA Free tubing is recommended for the operation with Kelvin.

Additional Information regarding BPA: Tubing with BPA is easy to bend and therefore use with a softer touch because of the composition of the BPA material. BPA has a flexibilizer agent in the plastic tubing which gives it this pliability. We suggest BPA Free or low BPA tubing from Tygon, Masterkleer, Alphacool and Fractal Design. The Reason why we warn for BPA Material tubing is that the flexibilizer, in some cases, creates some flakes inside these tubing when mixed with water protection liquids which can damage the Kelvin jet stream system parts.



Water enhancer / Coolants and Water Protections

Upon delivery, Kelvin offers water protection based on Ethandiol, which is to 100% biodegradable. We suggest if you need a refill for this protection to contact Fractal Design Service Department or to check for third party vendor products from Alphacool, Aquacomputer, Aquatuning or Phobya. We cannot suggest other third party vendors or water enhancers as we cannot guarantee the durability and performance measures.

If you are unsure or require an urgent refill, then please use distilled water for your refill under these circumstances.



What to do if your Kelvin set is not complete upon delivery?

If you receive an incomplete Kelvin product, please contact Fractal Design's Service Department immediately. We will do our best to resolve your issue in a timely manner.

Visit our Contact Us page for details: <http://www.fractal-design.com/home/contact-us>

Steps to take if you are experiencing bad CPU temperatures

1. Check if CPU mounting kit screws and been tighten too hard .
2. Reduce the amount of compound paste on your CPU. We recommend to apply a razor thin layer. please use therefore only a razor-thin application.
3. If you altered or performed any voltage control on the pump in any, please check the pump connection. Due to warranty coverage, we do not recommend to reduce the speed of the pump within your Kelvin water cooling system. Operating the system without the pump or on lower voltage can create unrepairable issues.
4. Check the connection and fastening of your fans and whether they rotate too slow which may be a result of setting the voltage too low.
5. When refilling your system, make sure to remove all air bubbles by shaking the system. If you have air bubbles within your system, you can also hear the gurgling noise if you listen to your system. Air bubbles are one of the leading reasons for bad radiator performance. To avoid these shake the radiator during the refill stage.
6. After you change your cooling system, it is important to check that the compound paste is reapplied and the amount of paste is enough. We suggest to apply a new compound every time you change your system.

Important notes for regular system maintenance

- For the optimum operation, make sure the radiator is placed above the CPU pump unit.
- Ensure fans are operating in one direction, whether a Push or Pull configuration.
- Every 6 months, the radiator and fans should be cleaned to avoid any dust build up or damage.
- Do not place the air-intake of the radiator in front of heaters.
- Due to potential warranty violations, user should operate the system with all security features of the motherboard BIOS (fan and overheating control) in which the Kelvin unit is included.
- Please refill the system after 2 years of operation via the dedicated fill port on the Kelvin pump unit.. For Support assistance, please contact the Fractal Design Customer Service Department.
- Warranty protects the System only for operation inside the PC. Every operation has to been proven before use inside pc before outside the PC. You may test the Kelvin system outside your PC before installing it to ensure the system works without leakage to avoid any potential damage inside your PC.. All upgrades you perform to your Kelvin system will be done at your own risk, and not under the warranty of Fractal Design and their partners.

Max. Thermal Cooling Performance for operation at full speed:

- T12 – CPU TDP 250Watt and GPU total 150 Watt
- S24 – CPU TDP 250Watt and GPU total 300 Watt
- S36 – CPU TDP 250Watt and GPU total 600 Watt

