Water Treatment Kits

USER INSTRUCTIONS – Cleaning the cooling circuits and replacing the cooling water
REL Water treatment kits for the aluminum and copper cooling circuits (a.k.a. chillers) are an aftermarket alternative for use in Trumpf® laser systems for the yearly water change. The dosage and usage of these kits is equivalent to the originals.

In general, the lower the conductivity the better. However, some Trumpf fiber lasers are equipped with a conductivity monitor that will prevent the machine from operating if the Cu conductivity is too low. Our Copper Kits now include separate pouches of a buffer solution to minimally increase the conductivity.

Cooling circuits must be cleaned once every year. The water is replaced after this process.
If the interiors of the tank are contaminated, then the cooling water must be drained off and the tanks must be cleaned. Afterwards, refill the tanks with demineralized water (at least 60%) before starting.

1. **Cleaning cycle:** Pour the cleaning biocide (Justeq07=Red) into the used water in the tank. Each water treatment kit might contain multiple bottles of the cleaning biocide. **The use of all cleaning biocide bottles (Justeq07=Red) contained in a kit is required for the cleaning cycle of the specified tank size *.**
2. Perform the cleaning cycle for 2 hours. Production can continue while doing so.
3. **Drain off all water**.
4. Immediately afterwards, **FLUSH** with demineralized water as often as necessary for the conductivity to fall below 20 µS/cm after circulation. (**Disposal - Cooling water must be disposed of in accordance with the local authority regulations.)**
5. Close the stopcocks upstream and downstream from the filters and strainers, if present.
6. Replace all filters in the cooling water circuits. Clean all strainers present.
7. Open the stopcocks again, if present.
8. **FILL** tank completely to 100%.
9. Add bottles of corrosion control agent provided in water treatment kit into the specific tanks (Cu-Control=Yellow, Al-Control=Light Blue) and circulate the water for a few minutes.
10. NEW: some fiber lasers are equipped with a conductivity monitor that will prevent the machine from operating if the copper conductivity is too low. If the conductivity monitor indicates that the conductivity is too low, then add all the included buffer (Buffer I and II=Light Grey) solution into the copper tank and circulate the system.
11. After circulating the system measure the uS Conductivity, observing the following limits:
    Copper cooling circuit - minimum: 40uS/cm and maximum: 200 µS/cm
    Aluminum cooling circuit – maximum: 500 µS/cm
12. Log the cleaning on the “Cleaning the cooling circuit” label on your machine.

Cooling water specification - The cooling circuits may only be filled with demineralized, deionized, or distilled water that meets the following requirements: Specific conductivity less than 10 µS/cm and Carbonate content less than 100 mg/l
Conductivity for newly replaced water after 10 min. of circulation max. 20 µS/cm

* Tank Size reference:

Copper Cooling Circuit

Kit No.	Tank Water Volume, liters	Cu-Control, ml	Justeq07 Biocide, ml	Qty of bottles	Buffer Version	Qty of Buffer
1	5 - 14	1	2.5	1	Buffer II, 20ml	1
2	15 - 49	2	7.5	1	Buffer II, 20ml	3
3	50 - 119	5	25	1	Buffer I, 20ml	1
4	120 - 359	15	60	3	Buffer I, 20ml	2
5	360 - 999	50	150	6	Buffer I, 20ml	7

Aluminum Cooling Circuit

Kit No.	Tank Water Volume, liters	Al-Control, ml	Justeq07 Biocide, ml	Qty of bottles
1	30 - 79	35	15	1
2	80 - 199	100	40	2
3	200 - 599	250	100	4
4	600 -1199	500	200	8

These instructions are provided as a guideline for use. The chemicals used as directed in the dosage provided are rated to maintain water conductivity at or below manufacturer's specified levels for one year. Please follow all other equipment manufacturer's preventive maintenance requirements