

Abstract

WATER-BASED COOLANT PURIFICATION AND RECYCLING DEVICE AND
METHOD FOR CNC WIRE EDM MACHINES

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The application relates to a water-based coolant purification and recycling device and method for CNC Wire EDM machines. The water-based coolant purification and recycling device for CNC Wire EDM machines comprises a storage assembly, a diversion filtration assembly, and an ion removal assembly. The storage
10 assembly comprises a machining fluid collection tank, a coolant tank, and an impurity storage tank. The diversion filtration assembly comprises a membrane filter and a water pump, which separates the machining fluid into purified coolant and impurities. The ion removal assembly is designed to supply deionized water to the diversion
15 filtration assembly for cleaning and recovering the coolant, wherein deionized water significantly improves membrane filtration efficiency and ensures the retention of active coolant components. This application effectively removes impurities while retaining the active components of the coolant, further improving coolant recycling efficiency, environmental friendliness, and cost-effectiveness.

20 (FIG. 2)