



Cutting Fluid Purification System

for CNC Engraving and Milling Machine



DALIAN CREST FLUID EQUIPMENT CO.,LTD.

Overview

This CNC engraving and milling machine coolant purification system is a solid-liquid and oil-water separation purification system developed according to the requirements of CNC machining processes for coolant. It fully meets the usage requirements of CNC engraving and milling machines for coolant, achieving automatic or semi-automatic solid-liquid and oil-water separation functions.

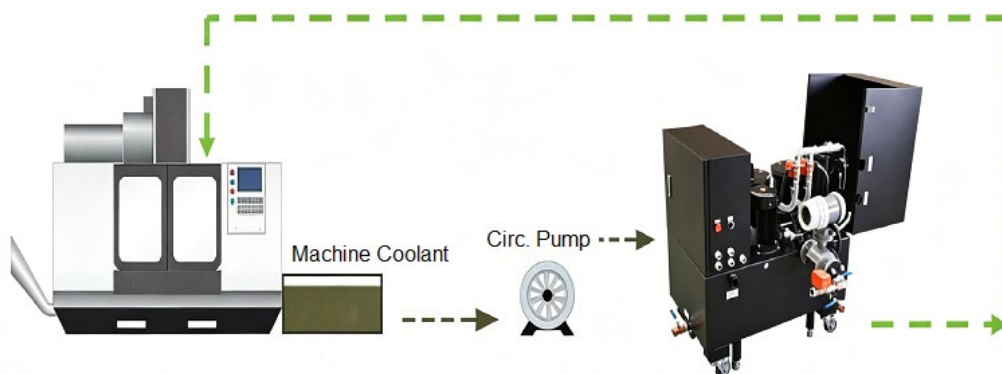
This CNC engraving and milling machine coolant treatment system features a compact structure, small size, low noise, stable performance, easy installation, convenient operation and use, and liquid level feedback and alarm functions.

Using this purification system allows your coolant to be used for a longer time; continuous purification can extend the service life of the coolant.

Technical Parameters

Model	DXXD 5
Medium	Cutting Fluid
Purification System Capacity	70 L/min
Filtration accuracy	3 μ m
Grundfos immersion pump working flow	40 L/min
System Dimensions	920×850×920mm

Structural Features and Working Principles



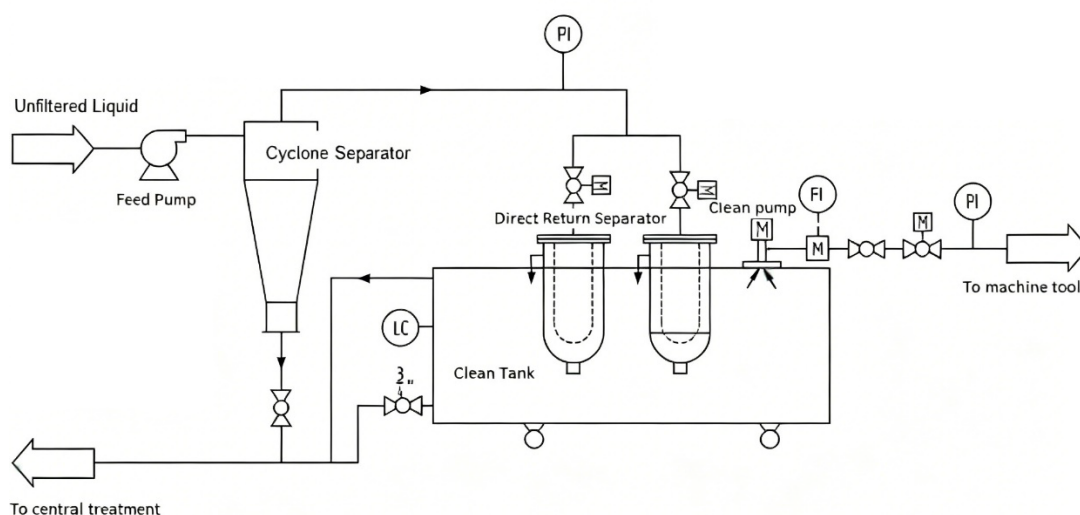
CNC Engraving and Milling Machine Cutting Fluid Purification Process

Structural Features:

The CNC Engraving and Milling Machine Cutting Fluid Purification System is manufactured with advanced technology and adopts a mechatronic structure. It mainly consists of a hydrocyclone separator, a direct-return solid-liquid-oil-water separator, a Grundfos submersible pump, a cutting fluid tank assembly, instruments, valves, an electromagnetic flowmeter, a level gauge, piping, and a control cabinet.

Working Principle:

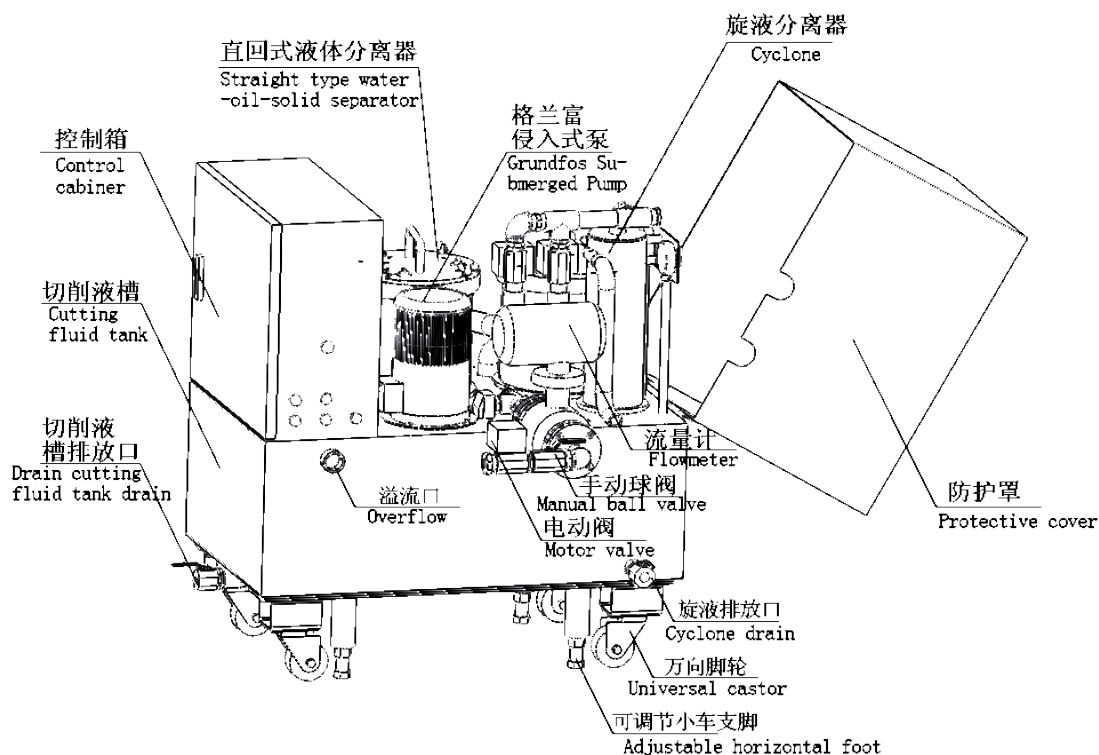
The supply pump delivers the contaminated cutting fluid to the hydrocyclone separator, which separates metal chips larger than $20\mu\text{m}$. The separated cutting fluid then enters the direct-return solid-liquid-oil-water separator, which removes solid particles larger than $3\mu\text{m}$ and most of the machine oil from the cutting fluid. The clean cutting fluid flows into the cutting fluid tank and is then pumped by the clean liquid transfer pump to the machine tool for use.



Product Features:

- Cost Savings: Reduce bulk purchases of cutting fluid and extend tool life.
- Environmental Protection: Completely eliminate the problem of random discharge of cutting fluid waste.
- Improved Efficiency: Reduce downtime for production equipment.
- Reduced Odor: Solve the problem of cutting fluid discoloration and odor.
- Improve Quality: Remove surface impurities and rust from machined parts.
- Purification Target: Impurity separation precision of $3\mu\text{m}$.

Component List and Names



CNC Engraving and Milling Machine Coolant Purification System

Application Fields

Purification and separation of various cutting fluids and emulsions for CNC lathes, CNC machining centers, IT industry, and automotive parts industry to achieve the effect of recycling and reuse.

Successful Applications

This CNC engraving and milling machine cutting fluid purification system is specially developed for the requirements of cutting fluids in CNC machining and milling processes. It has been successfully applied in the Dalian Machine Tool Plant project, with a cumulative total of 153 units to date.