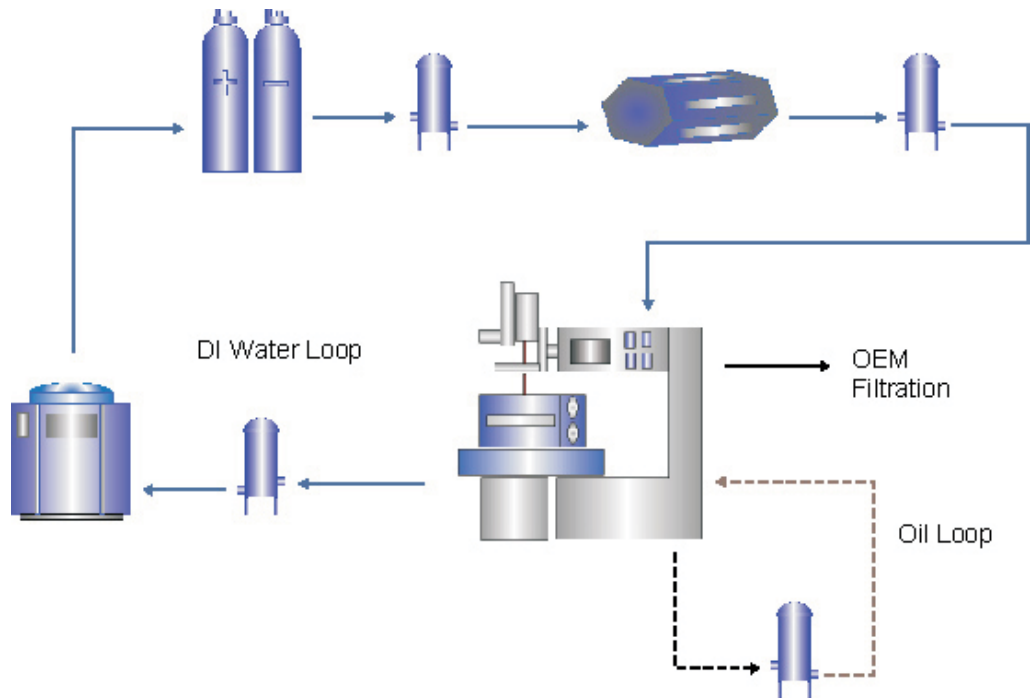


CLASSIC

FILTER & EQUIPMENT LTD

EDM (ELECTRIC DISCHARGE MACHINING)



PRODUCT KEY



Filter Housing



Chiller



De-Ionization

APPLICATION

EDM is the process of electrically removing material from any conductive workpiece. The process involves the application of high-frequency pulsed, ac, or dc current to the workpiece through an electrode or wire, which melts and vaporizes the workpiece material. The wire or electrode, delivers a spark with a temperature range between 8000 to 12000 degrees Celsius. It is the spark that melts and vaporizes the material. A dielectric fluid is used to flush the work area to remove chips and debris from the work tank and cool the electrode.



Wire EDM typically uses deionized water as the dielectric. This dielectric fluid needs to be kept clean. Particulate build-up will slow cutting time and it can encourage arcing between the electrode and the workpiece causing pits and guages. The fluid should be filtered from the machine prior to the cooler to remove this debris. This will keep the cooler clean which will lead to a more efficient cooling process.



The water downstream of the De-ionization tanks should be filtered to remove any stray resin fines prior to the ozone process. This will keep the ozonator from fouling and insure proper operation.



Downstream of the Ozonator, a filter will remove any dead organic matter prior to sending it back to the EDM machine.



Vertical or “sinker” EDM typically uses an oil as the dielectric fluid. Equipment Manufacturers design filter systems in their machines to clean this oil. Many operators, also, use a side-stream filter system to clean the oil. The side-stream can be operated even when the machine is off-line.



Chillers are used to bring the temperature of the di-electric fluid down prior to entering the de-ionization tanks. This prevents the hot fluid from burning the resin and damaging its' ability to remove ions from the water.



Resin exchange tanks typically contain cation and anion resins to remove any positive or negative ions from the water. This will prevent any of these particles from adversely affecting the charge in the worktank.

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