

Reduce your particulate contaminants. Keep your cool.

The water used in cooling water systems must be filtered to reduce particulates and help protect downstream process equipment from various sources of contamination at numerous entry points. External sources of particulate contamination include make-up water added in the cooling tower section, degradation of equipment seals, gasket materials and improper maintenance procedures. Particles can also originate within the system caused by rust or scale from piping and vessels.

Whether externally or internally generated, particulates can potentially cause serious problems:

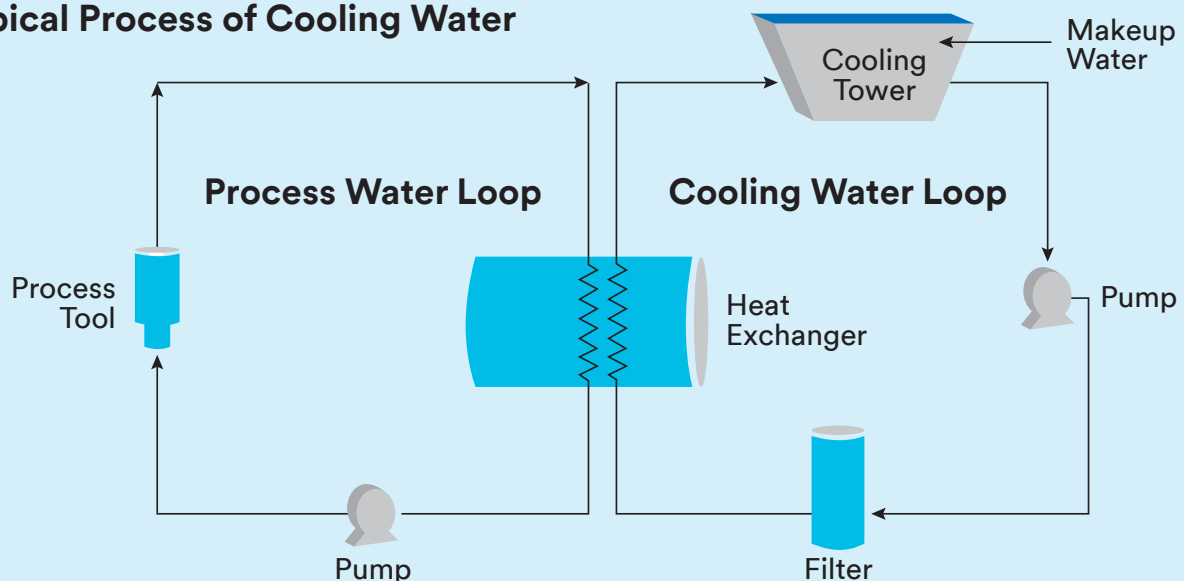
Heat Exchanger Fouling

Solids deposited on heat exchanger surfaces can cause hot spots to form. Hot spots are where accelerated corrosion can occur, leading to heat exchanger failure and costly repairs or replacement.

Equipment Damage

A poor performing heat exchanger can reduce the ability of the process water to absorb heat from the process equipment, which can damage or lead to replacement of sensitive process side equipment. Particulates can also clog piping, valves and pumps – causing high maintenance or replacement costs.

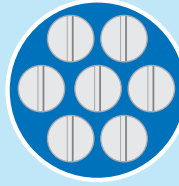
Typical Process of Cooling Water



3M™ High Flow Filter System vs. Conventional 2.5" Nominal Depth Cartridge System

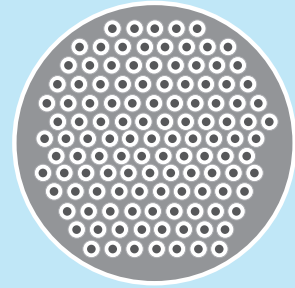
2,000 gpm (7,571 LPM) Flow Requirement

3M™ High Flow
Filter System



7 cartridges in a 24"
diameter housing

Competitive Nominal Depth Cartridges



120 cartridges in a 36" diameter housing

With High Flow, it's all systems go.

Effective filtration is important to proper operation of a cooling water system. 3M™ High Flow filter systems are ideally suited to provide effective filtration at the high flow rates typical in cooling water systems. The systems utilize large diameter (6.5") compound radial pleated cartridges in a compact housing design. These cartridges feature high efficiency polypropylene microfiber media that provides consistent, predictable particle reduction efficiencies.

Compared to conventional 2.5" nominal depth filter cartridges, 3M High Flow filter systems offer the following advantages:

- **Higher Particle Retention Efficiencies (99.9%):** Provides optimum protection of downstream equipment.
- **High Flow Capability:** Flow rates up to 500 gpm per 60" cartridge.
- **Compact Housing Design:** Reduces up-front capital expenditure requirements and footprint.
- **Ease of Use:** Fewer cartridges means filter change-outs are quicker and easier.
- **Twist-to-Lock Cartridge:** Provides a positive indication of proper sealing, reducing the possibility of bypass.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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