



Oil Purification in Metals Production

Eaton hydraulic and lubrication oil purifiers keep steel mill and foundry operations running smooth

Cooling water is essential to metals production; however, it is prone to entering the hydraulic lubrication system through bearings and other seal interfaces. Apart from particulate contamination, water is one of the most prevalent and destructive contaminants in oil, leading to shortened component life and decreased uptime. To remove water and solid particles, manufacturers of metals production equipment must utilize vacuum dehydration systems such as the fully automated Eaton IFPM fluid purifier system.

The IFPM system removes free, emulsified and dissolved water, free and dissolved gases, and particulate contamination down to 3 µm. It is available in two sizes with different flow rates: as IFPM 33 [7.9 gal/min (30 l/min)] and the IFPM 73 [18.5 gal/min (70 l/min)]. The Eaton IFPM models are compact, lightweight, and boast low energy consumption, making them ideal for conserving both equipment floor space and energy costs. Utilizing our electrical expertise, the cabinet and electrical hardware are designed with premium Eaton electrical components.

In addition to IFPM fluid purifier systems, Eaton provides a comprehensive range of hydraulic and lubrication oil filtration solutions for steel mills and foundries. Eaton duplex filters are industry-proven, reliably meeting the rigorous demands of lubrication systems. Hydraulic power units rely on Eaton high pressure and return line filters to keep oil clean and extend component longevity.








IFPM Fluid Purifier System

When using an IFPM fluid purifier system, contaminated oil is directed through an innovative vacuum chamber which lowers the evaporation point of the water. This allows the water to vaporize at lower temperatures, effectively reducing the required temperature of the oil. The oil is then routed through an Eaton NF filter, equipped with a 01.NR filter element, which removes solid particulates before returning it to the system reservoir. This process saves energy and prolongs oil life while efficiently lowering the water and solid particle content.

Features:

- Fully automated PLC
- Compact and low weight design
- Optimized heating performance with lower energy costs
- 12–700 cSt viscosity range
- Easy-to-change filter element
- Extends oil life
- Quiet vacuum pump
- Built utilizing proven Eaton Electrical components
- Designed and built in Germany
- Successful global installations



	Duplex Filters	High Pressure Filters	Return Line Filters
Models	DU, DWF	HP3, HPP, HPF	TEF, DTEF
Connection size and operating pressure	DU: Up to DN125 (5") Up to 914 psi (63 bar) DWF: Up to DN200 (8") Up to 232 psi (16 bar)	HP3: Inline Up to DN50 (2") Up to 6,090 psi (420 bar) HPF: Manifold mounted DN18 (¾"), 28 (1") and 36 (1.5") Up to 4,568 psi (315 bar) HPP: Manifold mounted DN20 (¾"), 22 (1") and 32 (1¼") Up to 4,568 psi (315 bar)	TEF: Tank mounted Up to DN200 (8") Up to 145 psi (10 bar) DTEF: Tank mounted DN125 (5") Up to 145 psi (10 bar)
	 	  	 

Filter Elements

Eaton offers a range of filter elements, designed to withstand extreme environments.

Benefits:

- Increased machine safety
- Long filter service life
- Low differential pressure
- High dirt-holding capacity



Eaton Filtration LLC
18684 Lake Drive East
Chanhassen, MN 55317
United States
Eaton.com/filtration

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