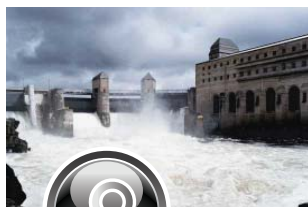




E-CO one of Norways leading energy producers. The company is Norway second largest water power producer with an annual middle production of 9,7 TWh. This covers the electricity needs of approximately 500 000 households.



**HYDRAULIC,
WATERTURBIN-
REGULATOR &
DAM HATCH**

We have 14 pcs. offline filtration circuits with Europafilter. In addition we have 2 pcs. mobile filtration units that we use when we add new oil to the storage and to clean the oilreservoirs of the dam hatches. We installed 13 pcs. EF. on new 100 Bar turbin regulators in the period of 2000-2003. Earlier we had 15 Bar facilities from the early -60's that we frequently had to re-assemble and clean parts belonging to the water turbin regulator. This had to be done due to a sticky brown varnish layer causing the regulator to hang, resulting in operational unreliability of the water

turbine regulator. After we have started the first four offline filtration units, in the spring of 2000, we have not experienced any problems at all.

We change filters when we can observe slightly darker color change of the oil. This seems to give a filterchange interval of approximately three years at our sites. All adding of any oil volume is carried out through the Europafilter system. In this way we have good control of avoiding any contamination levels to enter the hydraulic systems. Recently we also installed an Europafilter unit on a 145 Bar waterturbine regulator. The waterturbine regulator has been in operation for one year now without any problems. Based upon our experience with the previous 13 pcs. of Europafilter units we do not expect any problems with operational reliability due to particle, water or varnish contamination within the hydraulic fluids.

Solbergfoss 18.06.08

Rolf Engen

Maintenance leader

Eco Vannkraft, Solbergfoss



The pic. shows a Europafilter installation on one of the 14 water turbine regulators. We are very satisfied with the results and we can clearly see improvement of the operational reliability.



We can especially see reductions in oil and fullflow filter -consumption. The inline filters get better working conditions as a direct result of considerably improved oil quality

Some other companies that have chosen Europafilter:

Akzo Nobel, Arctic Paper AB, Arendal Fossekompagni ASA, Arla Food, AS Norske Shell, ASC South America, AstraZeneca, Austevoll Havfiske AS, Bagn Kraftverk DA, Barber Ship Management AS, Billerud Papper, Birkeland Br. Fiskebåtrederi AS, Bourbon Offshore Norway AS, C4 Energi AB, ConocoPhillips Norge, Daloc, DOF Rederi AS, Domsjö Fabriker, E.ON, E-CO Energi AS, Eidsiva Vannkraft, Eksjö Energi AB, Elkem Aluminium ANS, ESSO Ringhorne Platform, FordonsGas, Fortum, Färjerederiet, Gasell Profil AB, GE Energy AS, Getrag AB, Graphic Packaging AB, Gustavsberg AB, Gävle Energi AB, Göteborgs Hamn, Holmen Paper AB, Hydro Aluminium AS, Håkonsvern Orlogstasjon (Norske Forsvaret), Hässleholm Fjärrvärme AB, IAC Group AB, KCA Deutag Drilling Norge AS, Keter, Knauf Danogips AB, Knutsen OAS Shipping AS, Korsnäs Frövi AB, Kristiansund Taubåtservice AS, Leax Mekaniska AB, Lidköpings Värmeverk AB, Lindén International AB, Mondi Packaging AB, Naturkraft AS, Norske Forsvarets Forskningsinstitutt, Norske Havsforsknings Instituttet, Norske Skogindustrier ASA, Odfjell Drilling Management AS, Odim AS, Outokumpu AB, Ovako Steel, Pipelife AB, Plasinject, KCADEutag AS, Rana Gruber AS, Remøy Shipping AS, Roglaland Forkning, Rovde Supplyas, S.Ugelstads Rederi AS, SAAB, SAPA Profiler AB, SBS Marine, SCA, Scania, Sira-Kvina Kraftselskap, Skagerak Kraft AS, SKF, Solstad Shipping AS, SSAB, SSRS, Statkraft Energi AS, StatoilHydro Forskningsenter, StatoilHydro ASA, Swedish Tissue AB, Teekay Marine Services AS, TIDE Sjø, Tinfos AS, Trollhättan Energi AB, Vattenfall, Volvo Cars, Volvo Powertrain, Vägverket, Växjö Energi AB, Årlifoss Kraft AS, Öresundskraft AB



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