

TECHNOLOGY DEVELOPMENT PROJECT FACT SHEET

UT001: MAG IsoPur 600 Oil Purification System

Water and particulate contamination of lubricating oil can accelerate oxidation of the lubricant which will reduce its operating life.

The MAG IsoPur technology cleans oil (and other fluids) down to a submicron level of purity using electrostatic charges and specially developed filters.



The Technology Development group has acquired an IsoPur 600 model to demonstrate and validate the benefits of the IsoPur system. The unit has been tested at the Ocotillo Power Plant where it was used to clean the turbine lube-oil system on the 114MW steam turbines. It is now at the Four Corners Power Plant Unit 3 for further testing and evaluation. The IsoPur technology is expected to remove not only the contaminants in the fluid, but also deposits throughout the turbine lube-oil system. A cost/benefit analysis will also be performed as part of the technology validation.

We hope that once proven, this technology will find applications throughout the utility. From lubricating oils to hydraulic fluids, diesel fuel, and electrical insulating oil.

IsoPur 600

Max operating temperature:	250F
Max pressure	100 psia
Height x Width x Depth	60"x48"x28"
Normal operating flow rate	600 gph
Water removal	<50 ppm total water
Particulate removal	99% of particulates from <u>entire</u> lube-oil system after 5 weeks

Benefits of IsoPur polishing

Specific gravity will increase	Boiling point will generally increase
Surface tension will increase	Interfacial tension will increase
Thermal capacity will increase	Thermal conductivity will increase
Film strength may increase	Optical clarity will increase
Refractive index will usually increase	"Solvent" action will increase



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