



**THERMAL  
FLUID  
SOLUTIONS**

[www.thermalfluidsolutions.com](http://www.thermalfluidsolutions.com)

**UK Head Office:** 20 Hallsteads,  
Doveholes, Derbyshire, SK17 8BJ  
**+44 (0) 1298 815862**

**US Office:** 42 S Bethany Bend Cir,  
The Woodlands, Texas, TX 77382  
**+1 346-226-4092**



# DYNAMIC THERMAL FILTRATION

**NEW**

**Applying in-depth knowledge of the changes in chemistry that occur during fluid degradation to recover fluids on-line to their original specification.**

## **NEW, INNOVATIVE FILTRATION METHOD**

By mimicking the conditions required to change the state of the fluids between solid, liquid and gaseous state we can now remove the longer, heavier chemistry typically associated with solids, sludges and discolouration while operates continue to run their plants.

Only with an understanding of the chemistry changes that occur can we successfully remove fractions that simply do not exist at operating temperatures and with the changes in saturation that occurs with temperature change we can accelerate this process further.

## **HOW DOES IT WORK?**

The 'high-boilers' or solids saturation characteristics of thermal fluids is temperature dependent. Our Dynamic Thermal Filtration technology changes fluid temperatures within the process to maximise filtration efficacy; removing solid particles by matching the filtration temperature depending on the saturation characteristics of the contaminant, solid or high boiler and not the host fluid, delivering results that are impossible at operational temperatures where these fluid components are either held in suspension or in solution.



**THERMAL  
FLUID  
SOLUTIONS**

[www.thermalfluidsolutions.com](http://www.thermalfluidsolutions.com)

**UK Head Office:** 20 Hallsteads,  
Doveholes, Derbyshire, SK17 8BJ  
**+44 (0) 1298 815862**

**US Office:** 42 S Bethany Bend Cir,  
The Woodlands, Texas, TX 77382  
**+1 346-226-4092**

## FEATURES

**Autonomy:** a stand-alone system, it operates as a side stream to your process.

**Control:** it is supplied complete with computer-controlled secondary circuit and cooling to meet the temperatures required for optimum separation.

**Information:** HMI control provides users with the status of the operation.

**Safety:** the system is fully rated and protected to exceed thermal fluid design minimums.

**Remove solids, carbons, sludges & high boilers**

## HIGH BOILERS

A build-up of 'High Boilers' results in:

- Increased viscosity and reduced heat transfer capability of the fluid
- Reduced performance of process heat exchangers
- A reduction in flow reducing heat transfer and increased process temperature deviations
- Increased pumping costs
- Increased maintenance costs due to pump mechanical seal failures and the need to clear and clean control and safety device lines
- Reduced safety (devices are prone to false readings due to blocked lines and floats)
- Increased likelihood of heater coil failures and ruptures.
- Increased levels of Carcinogens

**The removal of 'High Boilers' is a critical step in maintaining a healthy, safe and efficient system.**

| PERFORMANCE  | Fluid Type   | Initial High Boilers | Volume Separation (Litres) | Trial Period (Hours) | Viscosity Reduction | High Boilers Reduction |
|--|--|----------------------|----------------------------|----------------------|---------------------|------------------------|
|  | The technology for the separation of high boilers and fluid against temperature has been well proven and documented. Trials using fluids with known levels of high boilers in saturation have been conclusive, even when the solids are tested to be <6 micron when out of solution: | Mineral Oil          | 0.97%                      | 1000                 | 10                  | 1.3%                   |
| Synthetic Fluid  |  | 1.96%                | 1000                       | 10                   | 2.20%               | 15.21%                 |
| <b>The improvements of system performance is immediate</b> |  |                      |                            |                      |                     |                        |

Email the **TFS Team**, [office@thermalfluidsolutions.com](mailto:office@thermalfluidsolutions.com)  
or visit [www.thermalfluidsolutions.com](http://www.thermalfluidsolutions.com)