

OptiFlash COC: Advanced functionality Electric igniter system

- Ease of use and easy cleaning
- High safety standards and fire extinguishing system
- New model Electric igniter
- Advanced functionality for flash point UV-Detector sensor



Keywords: OptiFlash COC, Electric igniter, UV detection system

Introduction:

PAC's Herzog OptiFlash COC is the benchmark in flash point analysis and a result of 50 years of experience in automated flash point measurement. OptiFlash COC is designed to perfectly meet today's expectations on user convenience, quality, and safety. The OptiFlash COC accurately detects flashpoint for petroleum products, lube oils, gear oils, food & beverages, chemicals, and bitumen.

Current methods are using gas flames as ignition source for COC measurements. Nevertheless, with the demand for higher safety standards and safety capabilities, new ways of ignition sources are required.

We developed a new Electric-Igniter option, as already available in other flash point methods, because of safety concerns in the laboratories and the use of gas is getting an obstacle for COC (D92) testing.

The Electric-Igniter system can work with all kinds of flash point detection sensors, regardless if you have a UV-detection or an Ionization-detection sensor.

However, customers who want to use the UV-Detection system must use an OptiFlash COC (D92) with the Electric-Igniter system.

Current gas driven units can be easily converted to the new electric ignition system, while the detection systems can't be modified.

Instrument Parameter settings for the UV-Detector system:

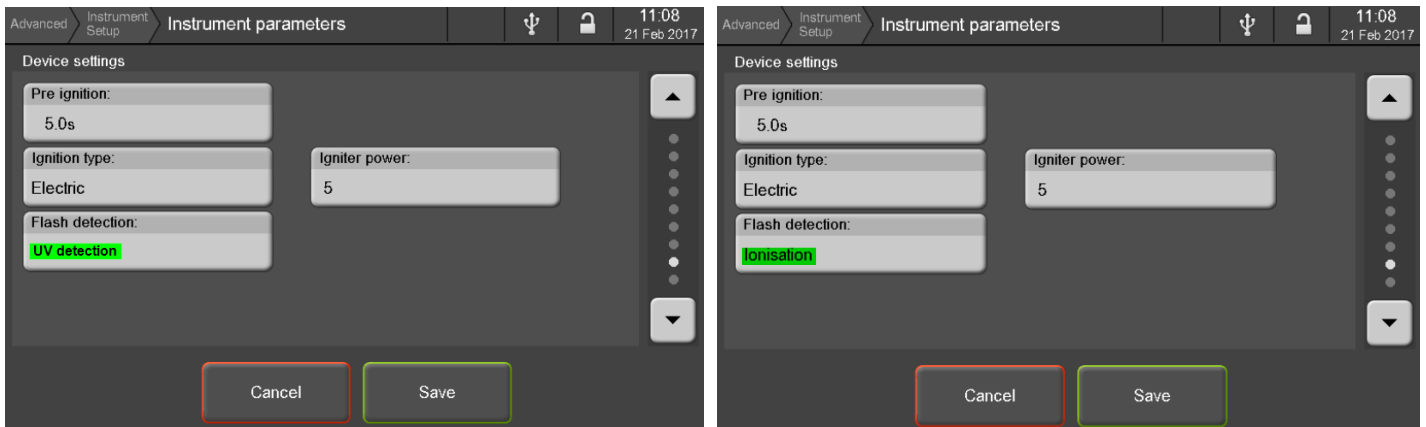
To use only UV-Detection system, the instrument must have the Electric-Igniter option!

However, devices with Electric-Igniter option can be used with Ionization and UV-Detector.

To activate this Electric-Igniter system, some parameter settings are required,

The "Ignition type" setting is on the 8th page of the instrument parameters. It needs to be set to "Electric."
and the "Igniter power" must be set to step 5.

The "Flash detection:" system can be selected between "UV detection" or "Ionization", as indicated in green in the picture below, depending on the availability of the detection systems physically build in the unit.



Gas and Electric-Igniter test results comparison:

ASTM D92 standard reference test samples n-tetradecane, n-hexadecane and the PAC CRM1065 test results on ION detection tests comparison Gas to Electric-Igniter as seen in the table below, there is almost no difference between both igniter type.

These results below prove that the UV-Detector is very stable and comparable to the flame / ionization detection technique.

The unit of all temperature given in the list is °C:

Sample	Flash Point	FP Tol. +/-	Igniter Type	Flash Point MW	FP-SD	Burning Point MW	BP-SD	FP Detector
n-tetradecane	115,5	12,5	Gas-Igniter	115,5	1,76	126,7	0,12	ION
			Electric-Igniter	116,5	2,45	127,3	2,28	ION
n-hexadecane	138,8	12,5	Gas-Igniter	139,9	1,67	153,5	2,00	ION
			Electric-Igniter	140,3	3,34	153,1	0,90	ION
CRM1065	228,3	12,0	Gas-Igniter	227,6	3,04	255,6	3,36	ION
			Electric-Igniter	228,1	3,58	254,9	1,67	ION

Conclusion

OptiFlash COC is in full compliance with ASTM D92. The electric igniter is not yet listed in ASTM D92 but will be part of the currently planned ILS, which will show the performance on a larger range of samples. As we prepare for the ASTM ILS Study the internal data prove that the electric ignition is giving you the same result level as the traditional gas ignition. As an industry leader PAC has introduced many innovations to the market and this is our latest, OptiFlash COC series with Electric ignition / sweep which is unique to D92 analyzers. The newly developed UV-Detector and Electric-Igniter perfectly solves the detection of samples with flash points that are problematic to detect. The newly developed Electric-Igniter system will make COC testing in the laboratory safer.