



# MERCURY MEASUREMENT IN FLUE GASES



## Emission of pollutants to the atmosphere

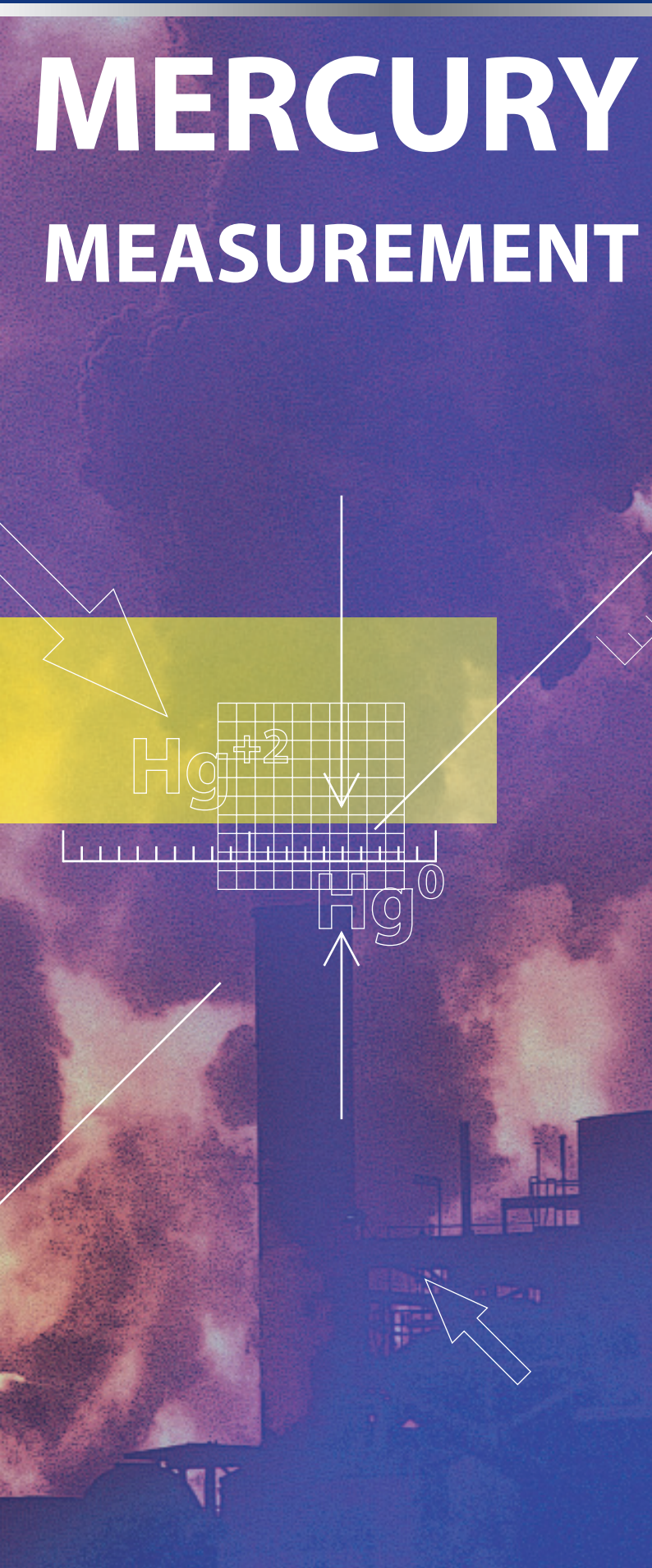
– new duties assigned by  
EU Industrial Emissions Directive (IED).

**Mercury measurements** due to very low  
element concentration and its appearance  
in various chemical forms require the  
involvement of sophisticated analytical  
methods, i.e. **speciation analysis**.

## TEKRAN 3300

Unique device enabling monitoring of mercury  
in flue gases at simultaneous determination of its  
chemical form, which bases on the use of cold  
vapor atomic fluorescence spectroscopy(CVAFS).

**The only device in europe**  
– ITPE equipment.





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## OFFER

- Industrial measurements of mercury emission – total emission and mercury's form speciation
- Balancing of mercury cycle in energy systems
- Determination of flue gases cleaning systems efficiency
- Analysis and guidelines on reduction of mercury emission to the atmosphere
- Procedures and apparatus for mercury monitoring systems
- Technologies for mercury emission reduction
- Mercury analysis according to the standard PN-EN 13211:2006 „Air quality – stationary sources emission – manual methods of determination of total mercury” and to Ontario-Hydro method performed by Accredited Laboratory

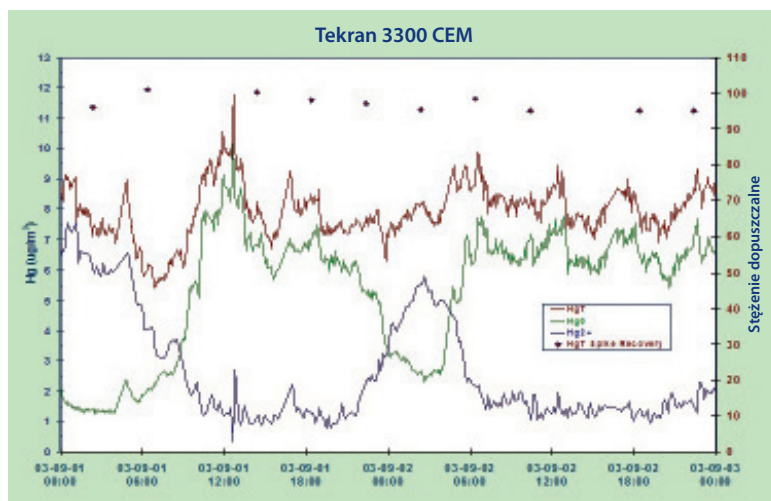
## TEKRA 3300 – TECHNICAL PARAMETERS

- Speciation analysis mode – simultaneous analysis of  $Hg^0$  and  $Hg^{+2}$
- Wide mercury concentration range: up to 5 mg  $Hg/m^3$
- Limit of mercury detection: 0,1 ng  $Hg/m^3$
- No impact of  $SO_x$ ,  $NO_x$ , HCl on mercury analysis performance and results
- Analysis of gases highly loaded with dust
- Maximum possible distance of sampling – 180 m from the analyzer

Analytical procedure recommended by US Environmental Protection Agency.

## REFERENCES

- Performance of mercury cycle balance in Tauron Wytwarzanie S.A. Power Plants – Jaworzno and Łaziska (2014)
- Mercury emission measurements at pilot scale conditions within strategic project “Advanced technologies for energy generation” (2013–2015)
- Researches run at demonstration scale installation for mercury removal from flue gases at Power Plant Łaziska (2014–2015)



The change of elemental mercury  $Hg^0$ , ionic mercury  $Hg^{+2}$  and total mercury  $Hg^T$  concentration



TEKRA 3300

