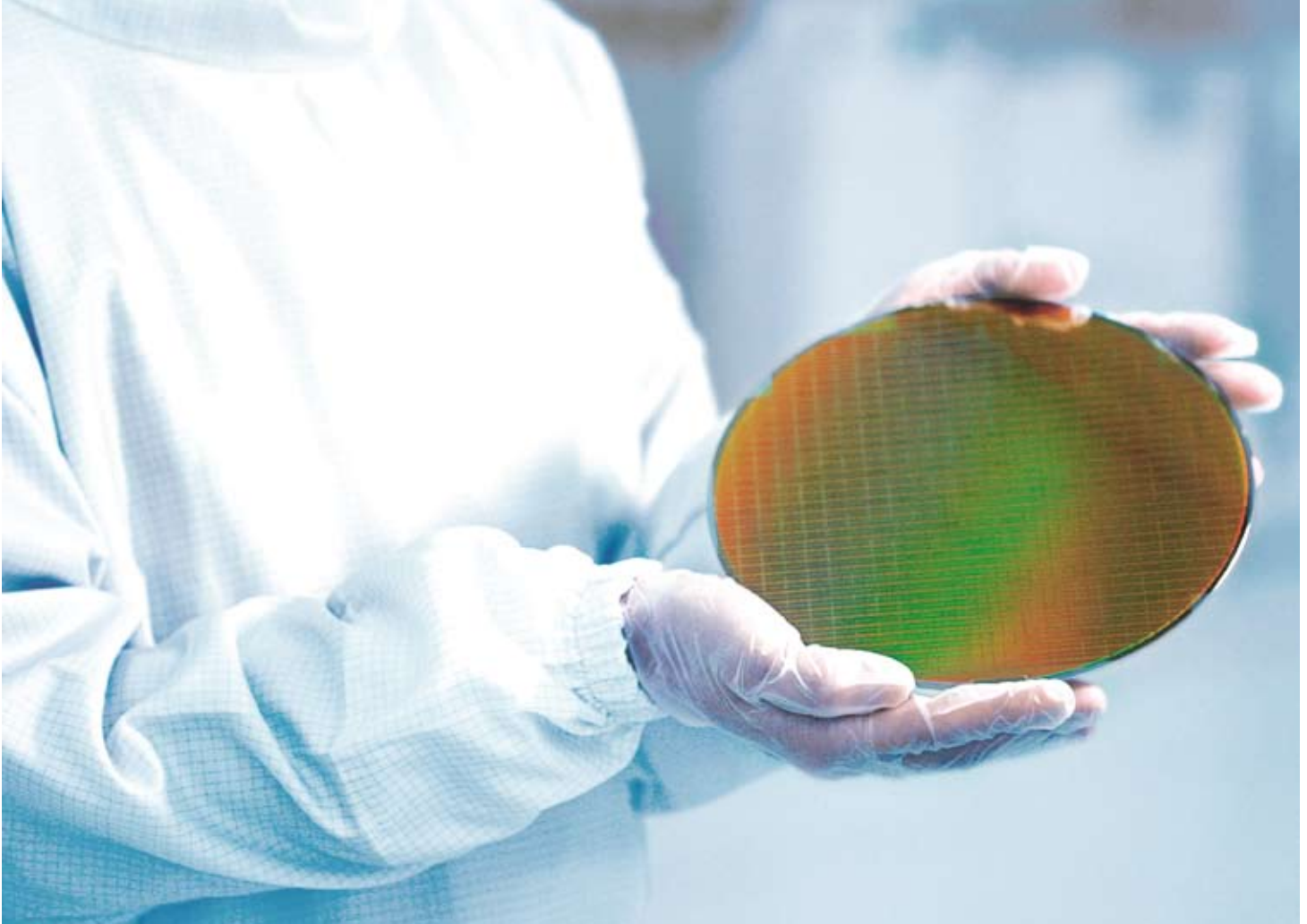




FTPA2000-SC Series

Wet Process Analyzer designed to optimize your bath life without risk of contamination. Solutions for Semiconductor, FPD and Solar Cell manufacturing.

# Wet Process Analyzer Built on Customer Demand



## Industry Leader

With years of experience and thousands of process monitoring installations, ABB is the leading supplier of fiber optic-based spectrometers to the semiconductor industry.

ABB's solution has the long-term stability required for end-of-bath alarms and enabling effective closed-loop chemical dosing from trend analysis: A change in measured chemical levels will be real, not analyzer drift. Our analyzer features are exactly what process control engineers across many industries have requested over the last 15 years.

Customers install the ABB solution because it is:

- cost effective for multiple tools and multiple bath compositions;
- tailored to fit end-user needs;
- easy to operate, install and maintain;
- a completely non-intrusive sampling design, there is no risk of bath contamination

"SEZ looks for process analyzers which have the lowest cost of ownership and enforce our process performance. We have found ABB analytical instruments to be of value to our operations."

SEZ

Michael Roth

Director, Global Marketing Communications and Operations

# Wet Process Analyzer



## Wet Process Analyzer (WPA)

The FTPA2000-SC Series (WPA) measures up to eight baths. The baths can be on single or multiple tools and of the same or different chemistries. It can be mounted anywhere within 100 meters of the baths and communicates with the tools using ModBus, Ethernet or Isolated 4 – 20 mA analog outputs. The WPA generates trend charts, predicted properties, bath alarms and health alarms.

## Sampling

The WPA sample interface is a unique cell that has no wetted parts. It is easy to install—just clip it on to an existing  $\frac{3}{4}$ " or  $\frac{1}{2}$ " PVA tube. It is constructed of Teflon™ and connected to the WPA via Teflon™ -protected fiber optic cables. The bath cannot be contaminated!

## Additional Product Lines

### Laboratory analyzers

The same calibrations used with the WPA may be used on our MB Series analyzers for use in the laboratory or in the clean room near the process. In addition to measuring wet chemicals, the MB Series' wide range of sampling accessories makes it the perfect tool for measuring wafer surfaces for hydrogen, interstitial oxygen, carbon, organic material and many other surface properties.

### IPA Dryer analyzer

The ABB IPA dryer monitor measures IPA in nitrogen dryers. Extremely fast and reliable IPA concentration measurements mean an end to production loss due to residue spots.



FTIR Laboratory Analyser

IPA Analyser

### ABB's calibration modeling and training services

Custom calibration models can easily be developed to generate process monitoring data. These calibrations are developed on an FAB-by-FAB basis for specific wet process baths. ABB will work closely with you to develop customized solutions/proprietary chemicals that meet your specific needs.

# Wet Process Analyzer Specifications

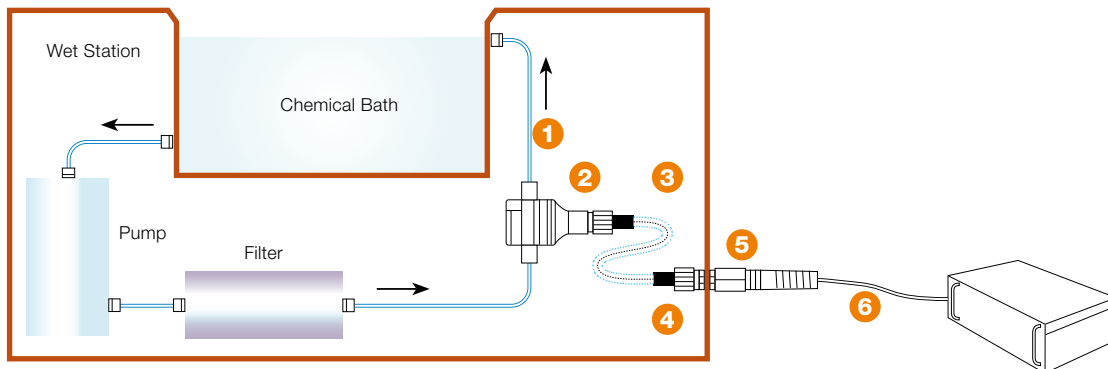
## Baths Monitored

Etch	Clean	PR & Ash Removal	Solar	FPD
A70 Acetic / HF / Nitric BHF (HF+NH4F) BOE Cyantek CR-7S Glycol/HF H3PO4 / H2O2 H3PO4 /Nitric / HF HCl + FeCl3 HF Hot Phos Hot SPM Mixed Acids Enchants Organic Acids PAD PAN Sulfuric /HF Sulfuric/H3PO4/Nitric/HF TMAH	Aqua Regia BDG DHF DMSO / MEA H3PO4 HCl / HF Kanto Deer Clean® Microstrip® 5002 Mixed Acids NH4OH / H2O2 / H2O Organic Acids SC2 SCI SPM ST250™	ACT® Aleg™ -310 CLK™ -888 DSP EKC™ H2S04 H3PO2 Rezi-38® ST250™ TMAH / H2O2	<b>Plating</b> Sulfuric in Ni Bath Sulfuric in Cu Bath <b>Texturing</b> HF / Nitric HF / Phosp / Nitric HCl <b>Thinning</b> KOH / IPA KOH NaOH	BDG DMSO / MEA Mixed Acids

### Custom calibration models

In addition to the chemical baths mentioned, ABB offers custom calibration development services. The WPA can be used to monitor almost every wet chemical bath used today. Furthermore, end-user have the option of creating their own calibration models and ABB offers the appropriate training services to assist our customers.

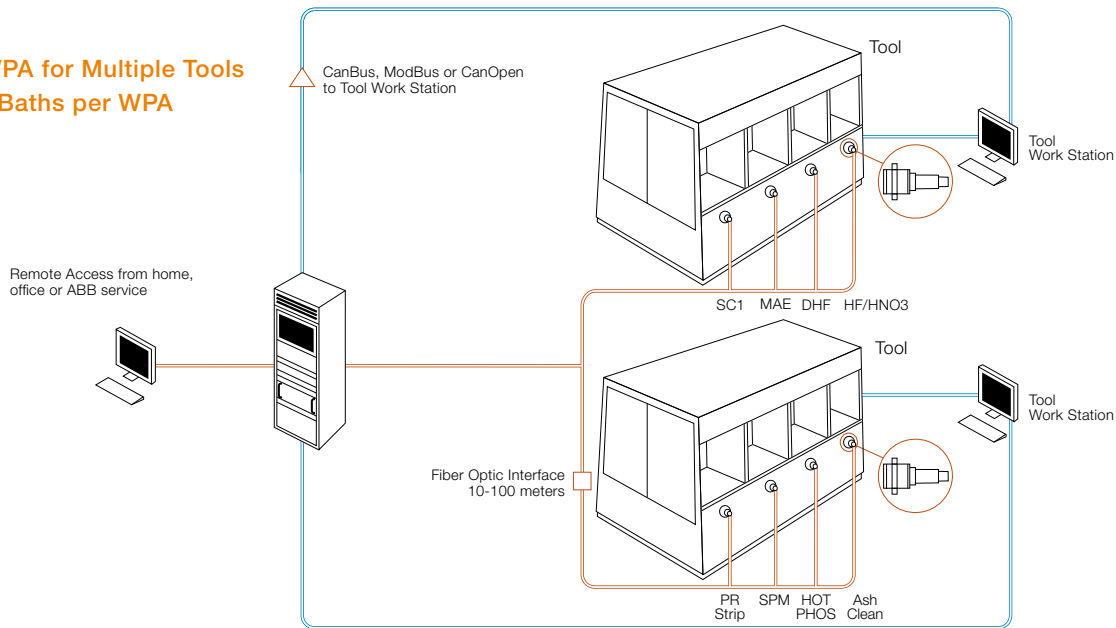
1. The Clippir is designed to be clipped directly around the recirculating line and is self supporting. However, an optional bracket can be provided.
2. 15.2 cm minimum clearance around the Clippir.
3. Teflon™ tubing protecting fiber optics: 1.5 m long.
4. 2.5cm access hole required.
5. Standard bulkhead fitting.
6. Standard 10 -100m fiber optic cables housed in PVC tubing.



# In-line Wet Process Analyzing of Chemical Baths

Reducing excursion events and chemical usage is best obtained through process control, which requires real-time end-of-bath monitoring and bath spiking. The WPA is based on FT-IR technology—a minimal drift system enabling reliable process control.

## One WPA for Multiple Tools and 8 Baths per WPA



## ABB's world-renowned Wet Process Analyzer provides guaranteed performance

- Extensively field proven. Rugged design and construction combined with superior manufacturing methods guarantee unsurpassed analyzer stability.
- Results obtained in less than one minute, with simultaneous analysis of multiple bath properties. Easy-to-use, operator-friendly, with very low analysis cost.
- Simplified sampling without cutting into tool fluidics means no risk of contamination. Up to eight baths, multiple chemistries, multiple tools and can be mounted up to 100 meters from the tool.
- Higher analytical precision (increased repeatability, reproducibility and stability) and full I/O capacity enable advanced process control.
- Very little training required for use by FAB personnel in a routine operations environment.
- Real-time and drift-free monitoring of wet chemical baths enable effective end-of-bath alarms and closed-loop dosing routines.

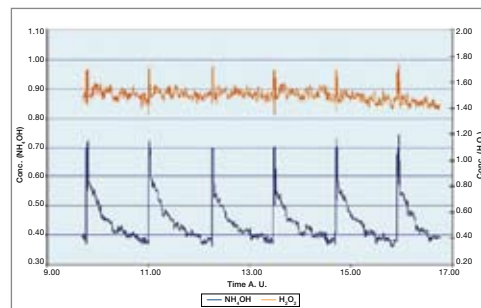


ABB Analytical is one of the major ABB manufacturing centers for laboratory and process analytical systems with more than 35 years of experience in developing FT-IR and FT-NIR spectrometers for industrial, military and space applications.

As part of our portfolio of products and services for process optimization, we are able to offer a full range of custom calibration modeling services and application support for industrial applications.

ABB also provides extensive, globally distributed after-sales support and engineering services, as well as a full customer training program.

#### **IR & NIR Spectroscopy Knowledge Management**

- Application support and spectroscopy training
- Calibration and chemometrics development training
- On-site services including hardware and calibration maintenance

#### **Up-Time Insurance Program**

- Preventive maintenance
- Extended warranty services
- Tailormade service contracts
- Chemometrics services

#### **Installations / Start-ups & Analyzer Life Cycle Program**

- Process spectrometer start-ups
- Laboratory spectrometer installations
- Spectrometer and laboratory/process software exchanges/upgrades
- Extended process and lab spectrometer warranties

## Contact us

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