



# Thermo Scientific MEP-300

## Multi-Element Probe

## XRF elemental slurry analysis without the need for liquid nitrogen

In the Mining industry, safety, and environmental sustainability are a priority and live data essential for process control, automation and optimization.

As a renowned expert in metallurgical and sampling technologies, we have designed the Thermo Scientific™ MEP-300 Multi-Element Probe to enable continuous online analysis without the need for liquid nitrogen. When the MEP-300 is used with the Thermo Scientific™ AnStat Online Sampling and Elemental Analysis Station, or Thermo Scientific™ MSA-330 Multi-Stream Slurry XRF Analyzer, it permits plant operators to follow and respond to process trends in real time.



Thermo Scientific  
MEP-300 Multi-Element Probe

The MEP-300 Multi Element Probe is the product of decades of experience with immersion probe based instream elemental analysis. It is one of the safest MEP with a retractable detector and source combining with a visual beacon to ensure no risk of radiation exposure for operators. The new detector attains higher count rates than previous generations with a better than 400% increase in copper sensitivity (CuKα), resulting in exceptional instrument precision.

The MEP-300 contains a thermo-electrically cooled, energy dispersive X-ray detector to deliver outstanding performance across a fluorescence of elements. It also leverages an advanced, field repairable Silicon Drift Detector (SDD) that does not require cryogenic temperatures due to its compact, rugged design. The detector resolution and counting rates offer excellent analytical performance, combined with increased safety, decreased utility and maintenance costs or improved product availability make the MEP-300 ideal to upgrade your existing MSA-330 and AnStat systems.

The MEP-300 replaces both the MEP and MEP-200 liquid nitrogen cooled X-ray fluorescence Immersion Probes.

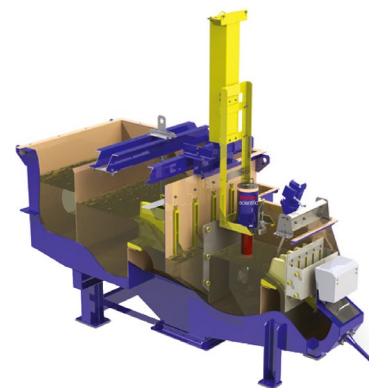
# New generation: Thermo Scientific™ MEP-300 upgrade and replacement kit options

## Common benefits of the upgrade

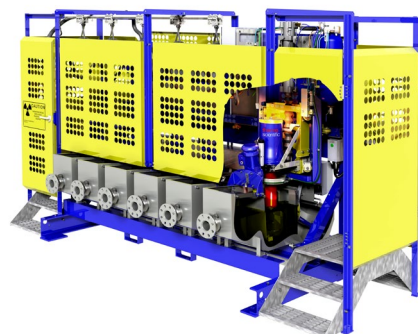
- **Improved safety**  
Radiation and liquid nitrogen handling hazards eliminated
- **Sustainable**  
Eliminate liquid Nitrogen replacement waist
- **Analytical performance**  
Improved precision and shorter counting times
- **Lower maintenance cost**  
Field repairable – no liquid Nitrogen

## Upgrade packages contain:

- MEP-300 Multi-Element Probe
- MEP-300 Controller for AnStat Online Sampling and Elemental Analysis Station
- Thermo Scientific™ WinISA software providing configuration, operation, maintenance, calibration and communications by Ethernet TCP/IP
- Opportunity to bundle other component replacement requirements with the main upgrade, e.g. hoists and crosscut samples



Thermo Scientific™ AnStat Online Sampling and Elemental Analysis Station with Upgrade



Thermo Scientific™ MSA-330 Multi-Stream Slurry XRF Analyzer with Upgrade



## (IP66) Shroud:

- High visibility beacon offering a quick visual confirmation of source position and alarm conditions
- Modular interface and control unit
- Temperature, humidity and vibration sensor package
- Cooling package (pneumatic)

## Probe Leg:

- Integral retractable source and detector
- Window rupture protection with back-up window
- Sealed heat exchanger
- Easier window cleaning when source is stored behind shield



## Frequently asked questions

### Why should I upgrade?

Increased safety, reduced maintenance costs, field repairable and improved analysis

### What product can be upgraded?

AnStat Online Sampling and Elemental Analysis Station, and MSA Multi-Stream Slurry XRF Analyzer (Mk 4.0 onwards)

### What are the steps in the upgrade proposal process?

- Contact your local sales or service
- Complete site questionnaire
- Site visit and equipment audit
- Receive proposal

### What do I have to prepare for?

A detailed list of site preparation tasks will be provided with the upgrade proposal. After accepting the proposal, a Thermo Fisher Scientific service engineer will visit and install the upgrade, provide training and assist with calibration. In some cases, LAN and instrument air infrastructure will need to be augmented.

### Will I have to recalibrate?

Yes, you will need to allow for a new calibration of the equipment.

### Will there be any impact to my accuracy?

For most common applications the MEP-300 will provide at least comparable accuracy.

### Can I use my existing source?

In most cases it can be transferred to the MEP-300 during the upgrade; however, in some cases the source may need to be replaced.

### How is the radioactive materials license affected?

You will need to notify your local regulatory authority that the source is being moved to a new device and advise them of the new device number.

### Can I replace my SEP with the MEP-300?

Yes, several single element probes (SEP) can be replaced with a single MEP-300, therefore only requiring one isotope.



Thermo Scientific new generation MEP-300				
MEP-300 physical specifications				
Probe weight	35 kg			
Dimensions	1.0m high x 0.4m wide x 0.4m deep			
Utilities				
Instrument air	ANSI ISA-S7 0 0-1996 (clean and dry to 0.1 microns with dew point <2 °C)			
Air consumption (slpm @ 600 kPa)	@20 °C Slurry & 20 °C Ambient 15	@30 °C Slurry & 35 °C Ambient 130	@40 °C Slurry & 45 °C Ambient 265	Maximum (peak) 420
Note: Consumption is given at steady state operating conditions. Consumption will vary depending on actual slurry and ambient air temperatures. Consumption is an averaged value based on duty cycle operation at volume flow rate. Consumption numbers are for probe only - controller does not require cooling air.				
Air pressure	550kPa nominal - 1000kPa maximum			
Power	Three Phase 48 to 62 Hz. Max 2.5kVA Neutral not required. Identical power requirements to previous generation products. Any of the standard three phase voltages used in the world mining industry in the range 380-600 Volts AC may be factory or field selected. Variation should not exceed ±10% of the nominal voltage selected			
Communications	Ethernet TCP/IP: 100MBps. Remote login to WinISA computer required. Reserve Static IP addresses: One for WinISA PC and one for each analyzer			
Environmental				
Operating temperature (ambient)	-10 °C to 55 °C (measured at enclosure surface temperature, temperature to not exceed 55 °C)			
Operating temperature (process fluid)	0 °C to 45 °C, Check with factory for higher temperature options			
Humidity	0 to 95% RH - non condensing			
Vibration	< 0.5G at installation tank supports			
Protection class				
Controller enclosure	IP65, NEMA 4X			
MEP-300	IP66 - suitable for continuous immersion in slurry			
Compliance and standards				
Controller enclosure and MEP-300	CE, ICES 001, CSA, FCC Part 15B and RCM AS/NZS CISPR11			

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