METTECH

NORTHWEST METTECH CORP.

NanoFeed™ Suspension Plasma Spray Feeder

The **Mettech NanoFeed Model 350 Suspension Feeder** is designed to deliver nano scale, sub-micron or fine micrometric powders to thermal spray coating equipment. Utilizing Mettech's experience in ultra-fine powders and nano-engineered coatings, all aspects of the suspension delivery, such as flow rate and injection pressure are precisely controlled.

The NanoFeed system has been engineered for industrial or development use. It delivers a stable, pulse-free suspension stream, to achieve repeatable, high quality coatings.

Features

- Suspension Particles from 10nm to 10µm
- Mass Flow Control of Suspension Feed
- Graphical Flow Rate and Operator Display
- Re-circulation loop between the torch and suspension tank – reduce wastage
- Integrated into Axial III™ Control Unit or
- Stand Alone Suspension Feed Unit with HMI
- In Tank Agitation

Mettech Liquid Suspension Feeder is a fully automatic computer controlled system for delivering nano or fine powder suspensions for coating applications.

- **Stability:** The closed-loop system has mass flow control of the suspension feed and atomizing gas providing very stable feedback control
- **Feed rate:** up to 170 ml/min at a suspension concentration of 40%
- **Robust Design:** stainless steel construction
- **Industrial and Development Models** available depending on your needs
- **Single or Twin Tank Feed**: for sequential coating of different materials
- **Automation:** Automatic start up, recirculation, washing cycles and sequential shut down opera-

Description

Enabling Suspension Spray Coatings (SPS):- the NanoFeed suspension feeders were one of the first used to implement SPS coatings in an industrial setting in both the Aviation and Semiconductor industries.

Performance Coatings: when combined with the Axial III Plus plasma system, engineered, fine structured coatings can be applied with high precision at an industrial scale.

Enabling unique coatings: suspension and solution precursor spray allow for some very unique coatings to be manufactured from chemistries that are difficult or impossible to spray using conventional powders.

Award winning design: Chosen by SmallTimes™ as Best of Small Tech Micro/Nano Tool in 2007.

A3 AXIAL

Specifications

Powder Size (D_{50})	20nm to 10µm
Powder Composition	Metal, ceramic, cermet, mixed material
Suspension Concentration	Up to 80% solids possible
Operating Liquids	Aqueous and organic solvents, solution precursors
Suspension Feed Flow	Adjustable,10-170 ml/min, mass flow control
Suspension Tank Volume	Model 350 =5 liters Optional 10 Liters
Injection Pressure	Adjustable, 1-7 bar (15-100 psi)
Operation	Integrated with Axial III system or stand alone
Power	120VAC, 50/60Hz, 20A (240VAC option)

NanoFeed 350™ - Twin tank Option

METTECH
NORTHWEST METTECH CORP.

Mettech is a privately owned company established in 1990 and headquartered in Vancouver, Canada. It maintains a global network of sales agents and system support.

- **Proprietary plasma technology** backed by strong IP.
- **Engineered coatings** capable of providing superior ceramic and composite coating properties.
- **Highly controlled processes**, delivering precision in industrial environments with sophisticated controls quality assurance.
- **Coatings Development Support**

Industries Served

- Aerospace – engine repair maintenance and overhaul – heat resistant coatings, jet engines and turbines, air seals, blade tips
- Defence industry applications (ballistics)
- Energy sectors: gas turbines, power generation,
- Pulp & Paper industry – industrial coatings on rollers – abradable coatings
- Solid Oxide Fuel Cells
- Oil and Gas sectors – corrosion protection
- Automotive – wear resistance, enhanced electrical properties
- Medical Implants
- Catalyst
- Industrial – control dimensions or rebuilt industrial equipment
- Semi-conductor coatings

Contact Information

Northwest Mettech Corp.
#103 – 19335 96 Ave

Surrey, B.C. Canada, V4N 4C4

Tel: 1.604.987.1668
email: info@mettech.com

Website: www.mettech.com

A3 AXIAL