

MagnePulse™ AT

High resolution on-line elemental analysis

MagnePulse



The MagnePulse AT system utilizes industrialized patented magnetic resonance and laser spectroscopy technologies in combination to reliably analyze multiple elements in industrial process streams. Real-time, non-destructive analysis of solids, liquids and slurries provide valuable feedback to plant control operators. Fully automated 24/7 operation in hazardous and non-hazardous locations are possible. Fast reliable analysis of multiple process streams is possible with a single

MagnePulse system and a custom engineered sampler.

With more than 450 on-line instruments installed globally, Progression, Inc. has a history of proven process analysis results and excellent serviceability. Robust on-line calibrations are generated for a wide variety of materials using plant standards. Remote communications via the internet or telephone connections enable immediate access to the MagnePulse in minutes.

Benefits

- Simultaneous multi-element analysis in real-time
- Improved plant efficiency
- Increased mineral recoveries
- Increased production rates

Advantages

- Routine calibration not required
- No radioactive or hazardous material required
- No sample preparation
- High repetition rates
- Measures solids, slurries and liquids
- Worldwide support/training

Applications

- Copper production
- Phosphate rock mining
- Phosphoric acid chemicals
- Precious metals
- Zinc and lead mining



Specification

Laser

Laser Type

Nd:YAG
Wavelength: 1064 nm
Repetition frequency: 1 – 15 Hz
Pulse energy: 50 – 400 mJ

Field Cabinet

System Siting

Hazardous and non-hazardous options, Group IIB, T4
Designed for use in -20°C (-4°F) to $+50^{\circ}\text{C}$ (125°F)
Cabinet is NEMA4X (IP66).

Climate Control

Air conditioner/electric heaters maintain cabinet to 25°C (77°F) $\pm 5^{\circ}\text{C}$.

Dimensions

Cabinet: 64" W x 24" D x 66" H (163 x 61 x 168 cm)

Weight

Approximately 1600 lbs (725 Kg)

PLC

Integral PLC in field cabinet for control and sequencing of valves and plant interfacing.

Piping/Tubing

Piping and tubing is 304/316 stainless steel. Swagelok fittings are used on all tubing connections. 150 lb RF flanged connections are used on all customer interfaced piping.

Utilities

Power Requirements

110 – 240 VAC, 50 or 60 Hz, single phase, 30A

Water

80 psig

Air

100 psig

Control Computer System

Location

At plant control room or maintenance building

DCS Link

Bidirectional digital link standard

Hardware

High-end Windows® compatible PC

Software

Progression's proprietary A/Ztec® operating software
(Windows based) pcAnywhere™ modem communication software

Connections

Direct phone line to modem
Fiberoptic cable (4 fibers) to field cabinet (wire connection optional)
Purge safety alarm contact to DCS (optional)

On-line Extraction System

Location

Location (at plant transfer line or process) is agreed upon by Progression and customer.
Components used on extraction panel are approved to appropriate area classification.

Dimensions

Approximately 30" W x 14" D x 46" H (76 x 37 x 116 cm)

Weight

Approximately 200 lbs (91 Kg)

Piping/Tubing

All piping and tubing is 304/316 stainless steel.
Swagelok fittings are used on all tubing connections.
150 lb RF flanged connections are used on all piping.
Customer connections are as follows: nitrogen supply (1"), instrument air supply (0.5"), inlet to extraction system (1"), sample/gas return to process (1.5").

Covered by one or more of the following patents: USA: #5,530,350, #5,596,275, #5,675,253, #5,408,181, #5,420,508, #5,015,954, #5,049,819, #5,302,896, #5,162,103, #5,319,308, #5,302,897. Canada: #2,170,640. Germany, France, UK, Netherlands: #576,421. Other patents pending.



Analyze with integrity.™

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