Taha Kimia Tajhiz Co.

Fann Co.

# Automated Permeability Plugging Apparatus (APPA) Model 389AP

## Datasheet

### Drilling Fluids Testing / Permeability Tests Equipment

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# Automated Permeability Plugging Apparatus (APPA) Model 389AP

## Description

The Automated Permeability Plugging Apparatus (APPA), Model 389AP operates similar to the PPA, providing accurate simulation and measurement of downhole filtration. The advantage of the APPA is automatic temperature and pressure control.

## Application

This 5,000 psig rated APPA is useful for predicting a drilling fluid's ability to form a semipermeable filter cake that seals off depleted or underpressure intervals and helps prevent differential sticking.

This design makes it possible for users to study filtration at higher differential pressures.

**Maximum Pressure:** 5000 psig (34,473 kPa)
**Maximum Temperature:** 500°F (260°C)

## Advantages

- Realistic and accurate downhole simulation
- Automatic pressure control
- Pressure applied from bottom, preventing solids settling that contributes to filter cake
- Designed for HPHT testing
- Compatible with filter media in various pore sizes
- Built-in heating chamber, hydraulic pump, and air pump
- Built-in resistance temperature detectors (RTDs)
- LCD keypad to perform routine operations —start/stop test, prime the cell, access test profile, and adjust pressure or temperature
- Nitrogen pressure regulator and oil pressure regulator on control panel

## Software Features

Fann's proprietary control system software monitors and controls the temperature and pressure of the drilling fluid.

With the LCD keypad or a computer , the user can activate the software.

Additional features include:

- Software Wizard for easy configuration, start/stop, and test profile creation
- Prime function to activate the pump using the computer or keypad instead of manually
- Real-time display of temperature and pressure for better control and monitoring
- Automatic data storage for future reference, printing, or downloading

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| Specifications | |
|---|---|
| Pressure Range | 0 psi to 5000 psi (34,473 kPa) |
| Temperature Range | Ambient to 500°F (260°C) |
| Compressed Air | 80 psi (551 kPa) minimum |
| Nitrogen Inlet | 1000 psi (6895 kPa) maximum |
| Power Supply | 115V/230V, 50/60 Hz, 1000 watts |
| Dimensions (W x D x H) | 29.7 x 29.9 x 26.2 in<br>75.4 x 75.9 x 66.5 cm |
| Weight | 175 lb (79.4 kg) |

## Ordering Information

Part No. 101967987— Automated Permeability Plugging Apparatus, Model 389AP

## Additional Equipment

### Ceramic Filter Discs

Ceramic filter discs simulate the porosity of the natural formation. Ceramic filter discs are stronger and more durable than natural materials, allowing for testing with greater pressures and back pressures. A wide assortment of disc of varying porosities enables the user to select a filter porosity that closely matches the actual formation being drilled. This provides a more realistic simulation of filtration properties than using the conventional filter paper.

| Fann Part No. | API Designation | New Hg micron | Old Air Data Previous Designation micron |
|---|---|---|---|
| 210536 | 10 | 10 | 3 |
| 210537 | 12 | 12 | 5 |
| 210538 | 20 | 20 | 10 |
| 210539 | 40 | 40 | 20 |
| 210540 | 50 | 50 | 35 |
| 210541 | 55 | 55 | 60 |
| 210542 | 120 | 120 | 90 |
| 210543 | none | n/a | 150 |
| 210544 | none | n/a | 190 |

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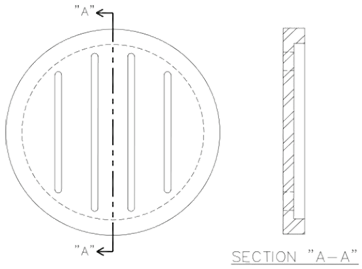
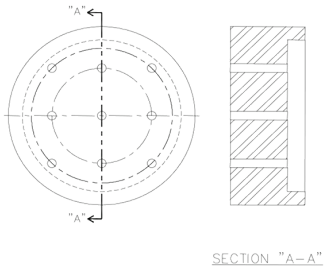
## Stainless Steel Filter Discs

Stainless steel filter discs are available for conducting Loss Circulation Test utilizing the PPA. Discs are constructed of 303 Stainless Steel and are available in both slotted configuration and with holes. All discs are 2-1/2-in. diameter for use with the Fann PPA and HPHT Filter Press. With proper care and maintenance these stainless steel discs can be reused.




| 1/4-in. Thick Discs | |
|---|---|
| **Fann Part No.** | **Description** |
| 209461 | 1 mm SLOT, 9 Slots, each 0.0394 in. wide |
| 386828 | 2 mm SLOT, 4 Slots, each 0.0787 in. wide |
| 386830 | 3 mm SLOT, 3 Slots, each 0.1181 in. wide |
| 386827 | 2 mm HOLE, 13 Holes, each 0.0787 in. diameter |
| 386829 | 3 mm HOLE, 9 Holes, each 0.1181 in. diameter |




| 1-in. Thick Discs | |
|---|---|
| **Fann Part No.** | **Description** |
| 209455 | 2 mm SLOT, 4 Slots, each 0.0787 in. wide |
| 209456 | 3 mm SLOT, 3 Slots, each 0.1181 in. wide |
| 209457 | 5 mm SLOT, 1 Slot, 0.1968 in. wide |
| 209452 | 2 mm HOLE, 13 Holes, each 0.0787 in. diameter |
| 209453 | 3 mm HOLE, 9 Holes, each 0.1181 in. diameter |
| 209454 | 5 mm HOLE, 5 Holes, each 0.1968 in. diameter |

*Fann Instrument Company offers a complete line of equipment, materials, and supplies for analyzing various drilling fluids and oil well cements in accordance with API Specifications and API Recommended Practices.*

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