

# Clark·Reliance®

ABC-1000™ Automatic Boiler Level Controller  
SPC 1000 Single Point Control  
ABC-1000 Retropak

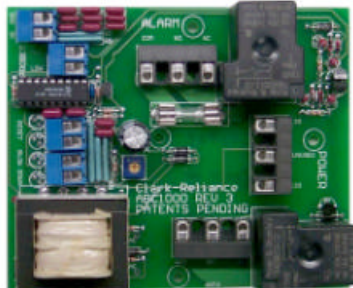
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|-------------|-------|
| Section:    | F100  |
| Bulletin:   | 100.2 |
| Date:       | 03/09 |
| Supersedes: | 5/01  |

## Features and Benefits

- Design pressure to 450 WSP
- Meets ASME, CSD-1 Requirements
- LED Monitoring
- High current load electromechanical relays allow for easy control of pump and alarm circuits
- Built in Positive Blow Down Indicator™ assures proper blow down while maintaining uninterrupted boiler service
- Self diagnostic capability is standard - the result is enhanced safety
- Electronics can be remotely mounted for added flexibility
- No floats, linkages or mercury switches
- Automatic reset feature is standard, manual reset available
- Gage glass and gage glass cocks can be supplied as an option

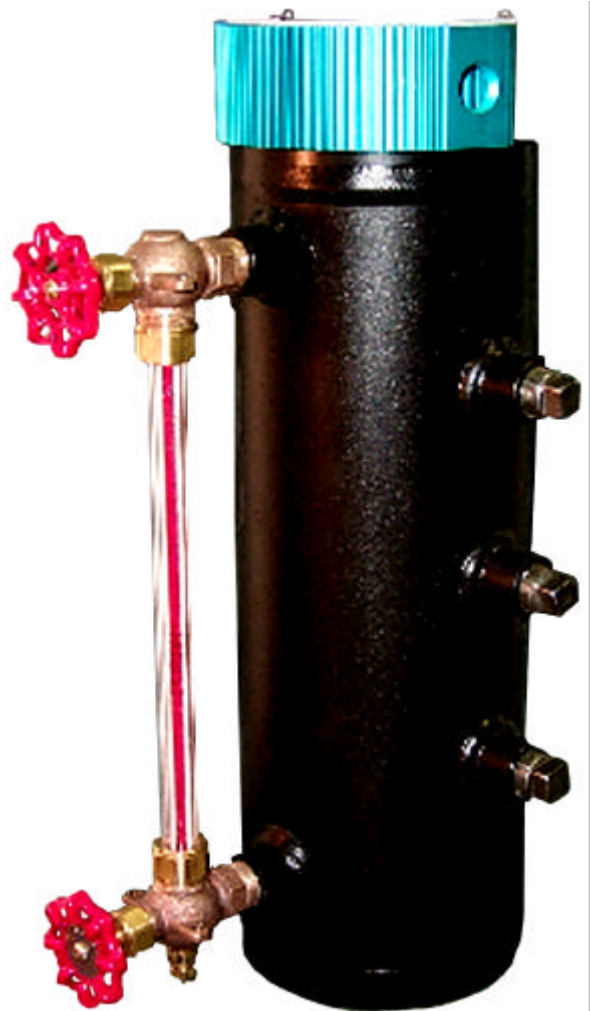
The ABC-1000, Automatic Boiler Level Controller, is a microprocessor based device designed to maintain optimum feed-water level in a boiler, provide low water level alarm and fuel cut off.

Personnel and equipment safety are its primary functions. This device is intended for use on Package Boiler Systems with a maximum design pressure of 450 psig.



ABC1000 Controller Board

**No Floats  
No Mercury Switches  
No Moving Parts !!**

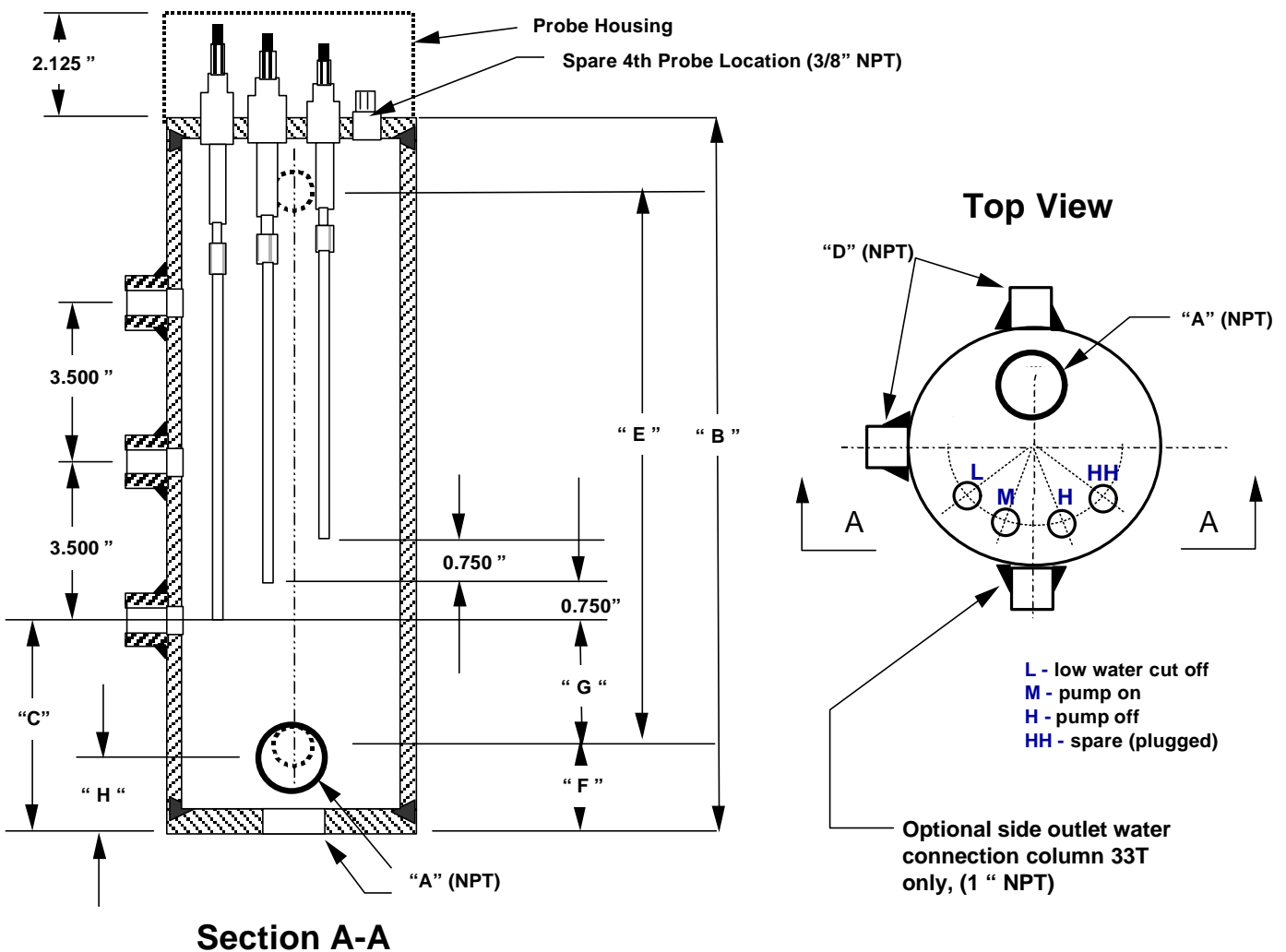


The ABC-1000 meets all requirements for level control and fuel cut off contained in ASME CSD-1 for automatically fired boilers.

# ABC-1000™ Automatic Boiler Level Controller

| Column Designator | A      | B   | C      | D    | E       | F      | G      | H  | Weight (lbs) | Steam & Water Connections |
|-------------------|--------|-----|--------|------|---------|--------|--------|----|--------------|---------------------------|
| 06T               | 1"     | 16" | 4 7/8" | 1/2" | 11 1/2" | 2 5/8" | 2 1/4" | NA | 30           | Top & Bottom              |
| 08T               | 1 1/4" | 16" | 4 7/8" | 1/2" | 11 1/2" | 2 5/8" | 2 1/4" | NA | 30           | Top & Bottom              |
| 11T               | 1"     | 17" | 5 7/8" | 1/2" | 11 1/2" | 3 5/8" | 2 1/4" | NA | 32           | Top & Bottom              |
| 22T               | 1 1/4" | 17" | 5 7/8" | 3/4" | 12 3/4" | 2 3/8" | 3 1/2" | NA | 32           | Top & Bottom              |
| 33T               | 1"     | 17" | 5 7/8" | 1/2" | 11 1/2" | 3 5/8" | 2 1/4" | 2" | 32           | Top and Side              |

Column 33T with side outlet water connection, bottom connection will be plugged.



# ABC-1000™ Automatic Boiler Level Controller

## Specifications    ABC-1000

Electronics:    Input Voltage 115 VAC, 50-60Hz  
Maximum Ambient Temperature:    60° C /140° F

Contact Ratings:  
N.O.  
115 VAC 16FLA/60LRA  
230 VAC 12FLA/50LRA

Pump Circuit  
N.C.  
5.8FLA/34.8LRA  
4.9 FLA/20LRA

Contact Ratings:  
N.O.  
115 VAC 20A Resistive  
230 VAC 20A Resistive

Alarm/Fuel Cutoff  
N.C.  
10A Resistive  
10A Resistive

Contacts:  
Time Delay:

2 SPDT  
0-30 sec. delay on make and break  
for both pump and alarm relays

Reset Options:

Automatic or Manual

Approvals:

Probe Column:

Standard

Column Material:

Carbon Steel - ASTM A106B  
- ASTM A285C

Probe Connection:

Integral 3/8" FNPT

Gage Glass Connection;

1/2" FNPT or 3/4" FNPT

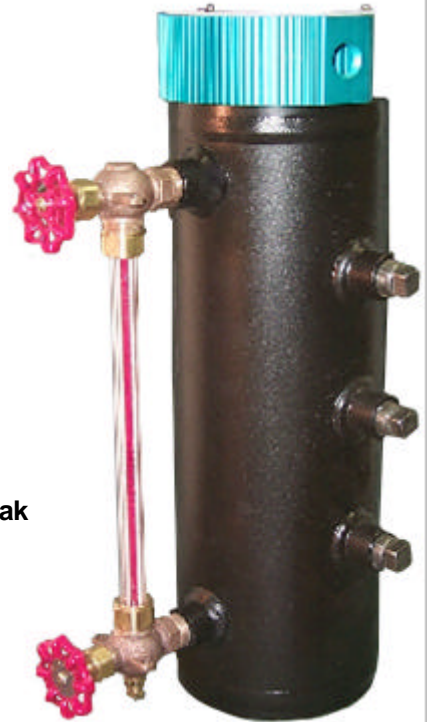
Steam and Water

1" or 1 1/4" FNPT Top and

Connections:

Bottom or Top and Side

Maximum Design Pressure:    450 PSIG



**How to Order**    Contact your local Sales Representative or Clark-Reliance

**Model Number Code:**

RABC1000 - -

A= Automatic Reset, M=Manual Reset

Time Delay in Seconds (00,01,02,04,08,16,30)

Column Designator (06T, 08T, 011T, 022T, 033T)

**Clark-Reliance®**

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# SPC-1000 Single Point Control

## Specifications

### SPC-1000

Electronics: Input Voltage 115 VAC, 50-60Hz

Maximum Ambient Temperature: 60° C /140° F

Contact Ratings: Alarm/Fuel Cutoff

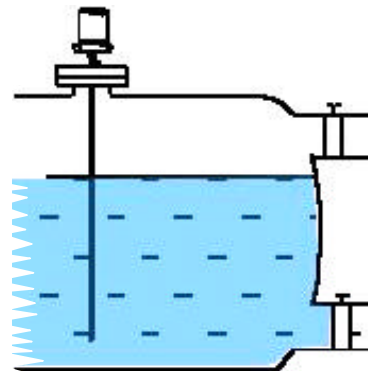
| N.O.                        | N.C.                                 |
|-----------------------------|--------------------------------------|
| 115 VAC 20A Resistive       | 10A Resistive                        |
| 230 VAC 20A Resistive       | 10A Resistive                        |
| Contacts:                   | 1 SPDT                               |
| Time Delay:                 | 0, 3, 5 sec. Delay on make and break |
| Reset:                      | Manual                               |
| Approvals:                  |                                      |
| Probe Connection:           | Integral 3/8" FNPT                   |
| Steam and Water Connection: | 1" MNPT                              |
| Controller:                 | Open Circuit Board                   |

Maximum Design Pressure: 450 PSIG

The SPC-1000 meets all requirements for level control and fuel cut off contained in ASME CSD-1 for automatically fired boilers.

## Features and Benefits

- Meets ASME, CSD-1 requirements
- LED Monitoring
- Adjustable Time Delay
- Use as Low Water Cut Off, High Water Alarm or any Single Point Level Application
- Valve Control, Pump Control, Alarms
- Safety Interlock



## How to Order Contact your local Sales Representative or Clark-Reliance

**Assembly Model Number:** RSPC1000 - \_ - \_ - \_ P  
 A= Automatic Reset, M=Manual Reset \_\_\_\_\_▲▲▲▲  
 Time Delay in Seconds (00,03,05) \_\_\_\_\_▲▲  
 Probe Length (feet): 2, 3, 4, 5, 6 \_\_\_\_\_▲

**Controller Model Number** RSPC1000 - \_ - \_  
 A= Automatic Reset, M=Manual Reset \_\_\_\_\_▲▲  
 Time Delay in Seconds (00,03,05) \_\_\_\_\_▲

**Probe and Housing Model Number:** RSPC- \_ \_ P  
 Probe Length (feet): 2, 3, 4, 5, 6 \_\_\_\_\_▲

**Replacement Probe Part Number:** RPABC- \_ \_ P  
 Probe Length (feet): 2, 3, 4, 5, 6 \_\_\_\_\_▲

# ABC - 1000 Retropak

## Specifications

The ABC-1000 Retropak is a simple way to upgrade boiler controls for enhanced safety and performance while at the same time reducing routine repair costs. An additional benefit is that this device eliminates mercury switches and snap-action switches while maintaining the electrical contact ratings of your existing equipment. Contact ratings of each circuit are listed on page three of this catalog.

Over the past 50 years many boilers have been supplied with float-type controls, as shown below, (see figure 1). The ABC-1000 Retropak maintains current contact point and is easily installed on the existing water column via an adaptor flange, (see figure 2). This 10 minute conversion results in a conductivity probe based system (see figure 3) with all the features and benefits of the ABC-1000 control unit while at the same time eliminating moving parts, bellows, floats and mercury/snap switches.



Notes: Maximum design pressure of the ABC-1000 Retropak is limited to the maximum design pressure of the attached pressure vessel- up to 450 PSIG. 120 vac power supply needed.

**How to Order** Contact your local Sales Representative or Clark-Reliance

**Model Number Code:**

RABC1000 - - FP

A= Automatic Reset, M=Manual Reset

Time Delay in Seconds (00,01,02,04,08,16,30)

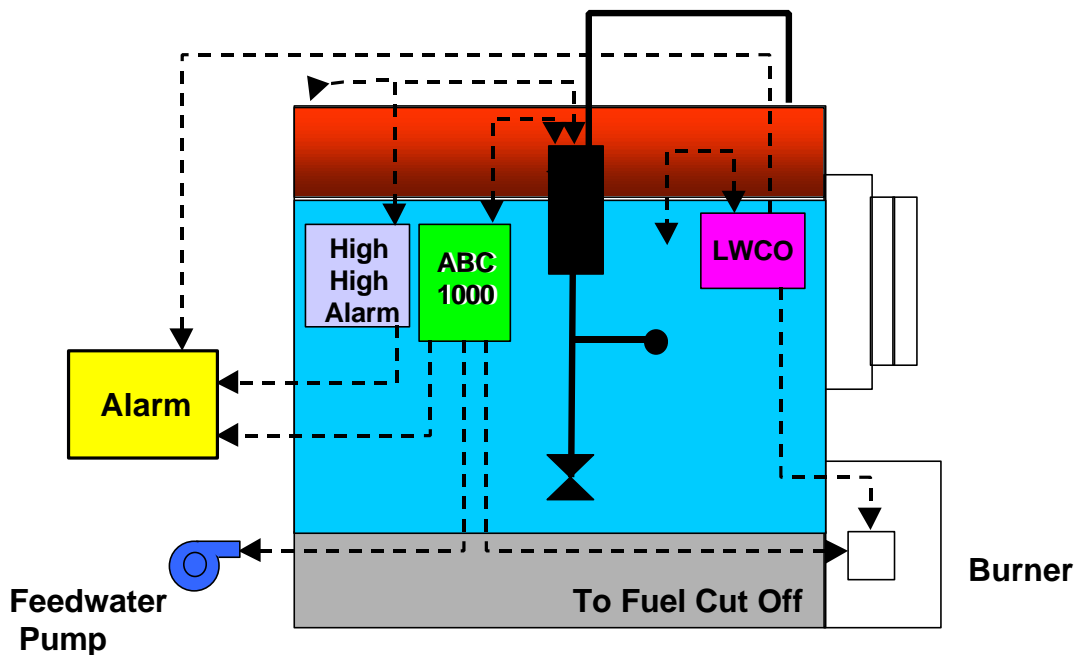
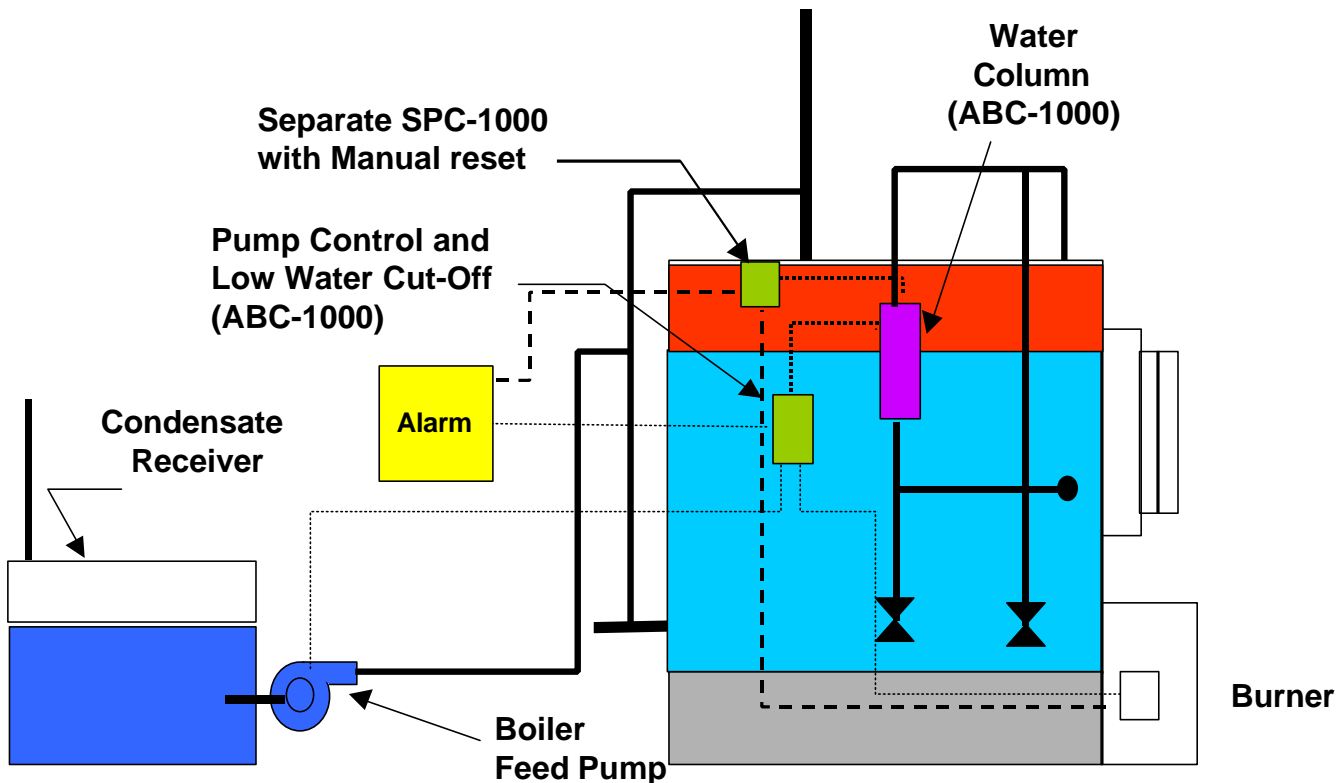
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# ABC-1000™ Automatic Boiler Level Controller



Typical Boiler Level Control Arrangements