

Instruction Manual

- AT200BB (incorporating AT200-WP1 timer controller)



BOILER BLOW-DOWN CONTROL SYSTEM

Supplied by:

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- Note:** On-going product development at Convergent Water Controls may lead to changes in the specifications of this product.
- Warranty:** This product is guaranteed for a period of 12 months from installation date. The warranty applies to manufacturing or component defects which may cause the unit to malfunction under specified conditions. The guarantee does not cover damage due to abuse, tampering or improper installation.
- Disclaimer:** Convergent Water Controls will not be held liable for any consequential damage or loss arising resulting from product malfunction.

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1. INTRODUCTION

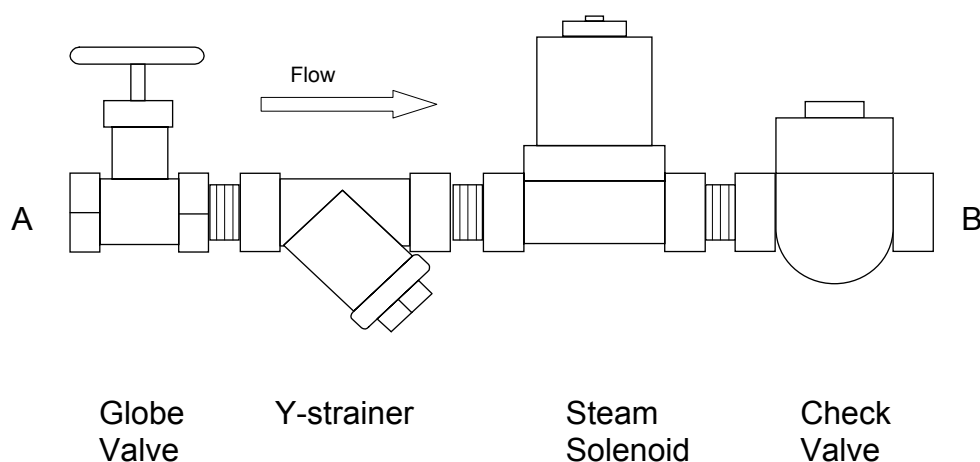
The AT200-WP1 timer controller, is easy to set up and operate. Once installed, together with the manifold, all that is required of the user is to set up a BLOW-DOWN time and an IDLE time. Automatic blow-down occurs on a repeating cycle, ie. BLOW-DOWN time followed by an IDLE time.

1.1 Components of the AT200BB Boiler Blow-down System

The following components are required for boiler blowdown control:

1. AT200-WP1 Timer Control Box incorporating Rhomberg AT200 timer set on Function 1.
2. Isolation/Globe Valve installed on outlet of sample line of boiler.
3. Y-strainer to prevent solids from clogging the solenoid valve.
4. Steam Solenoid Valve.
5. Check Valve.
6. Blow-down line.

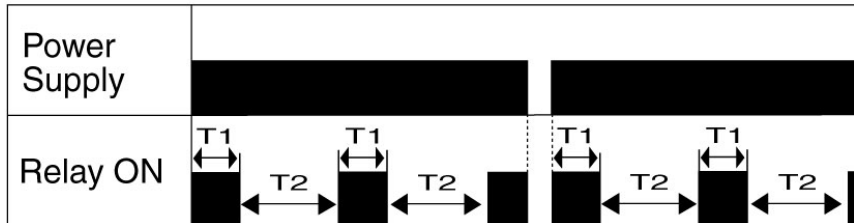
The diagram below outlines the Bypass Assembly used in a boiler blow-down system. This assembly consists of a globe valve, Y-strainer, a steam solenoid and a check valve. Point 'A' in the diagram is the manifold inlet, taken from the boiler sample line. Point 'B' leads to the boiler blow-down line. The globe valve is necessary as it isolates the bypass to service any of the components.



2. DESCRIPTION OF OPERATION

Rhomberg Timer Model AT200

Function 2: Asymmetrical Recycling. ON cycle first.



T1 = Time set for BLOW-DOWN time

T2 = Time set for IDLE time

The AT200-WP1 starts timing as soon as mains power is applied (usually when the boiler is operating).

When the AT200BB is powered, an BLOW-DOWN time commences. Once the BLOW-DOWN time is complete, an IDLE time commences. During the BLOW-DOWN time, the solenoid valve is energised, allowing boiler water to pass through. Once, the IDLE time is complete, the cycle starts again with another BLOW-DOWN time.

After experimentation, the adjusted time settings will provide sufficient blow-down time to keep the TDS of the boiler water at a desirable level.

Timer:	Rhomberg AT200
Operation:	Function 2: Asymmetrical Recycling, ON cycle first (Terminals Y3 & Y4 linked).
T1:	Blowdown Time (default 6 seconds)
T2:	Idle Time (default 2 minutes)
L1: Red LED L2: Green LED	Blowdown occurring (ie. solenoid valve activated) Power On (Flashing indicates timing)
Default Time Range for T1:	Seconds
Default Time Range for T2:	Minutes
To change T1 (ie. Blowdown time) to minutes:	Add a link between terminals Y1 & Y3
To change T2 (ie. Idle time) to seconds:	Remove the link between terminals Y2 & Y3 (WARNING: remove power before adding or removing links)

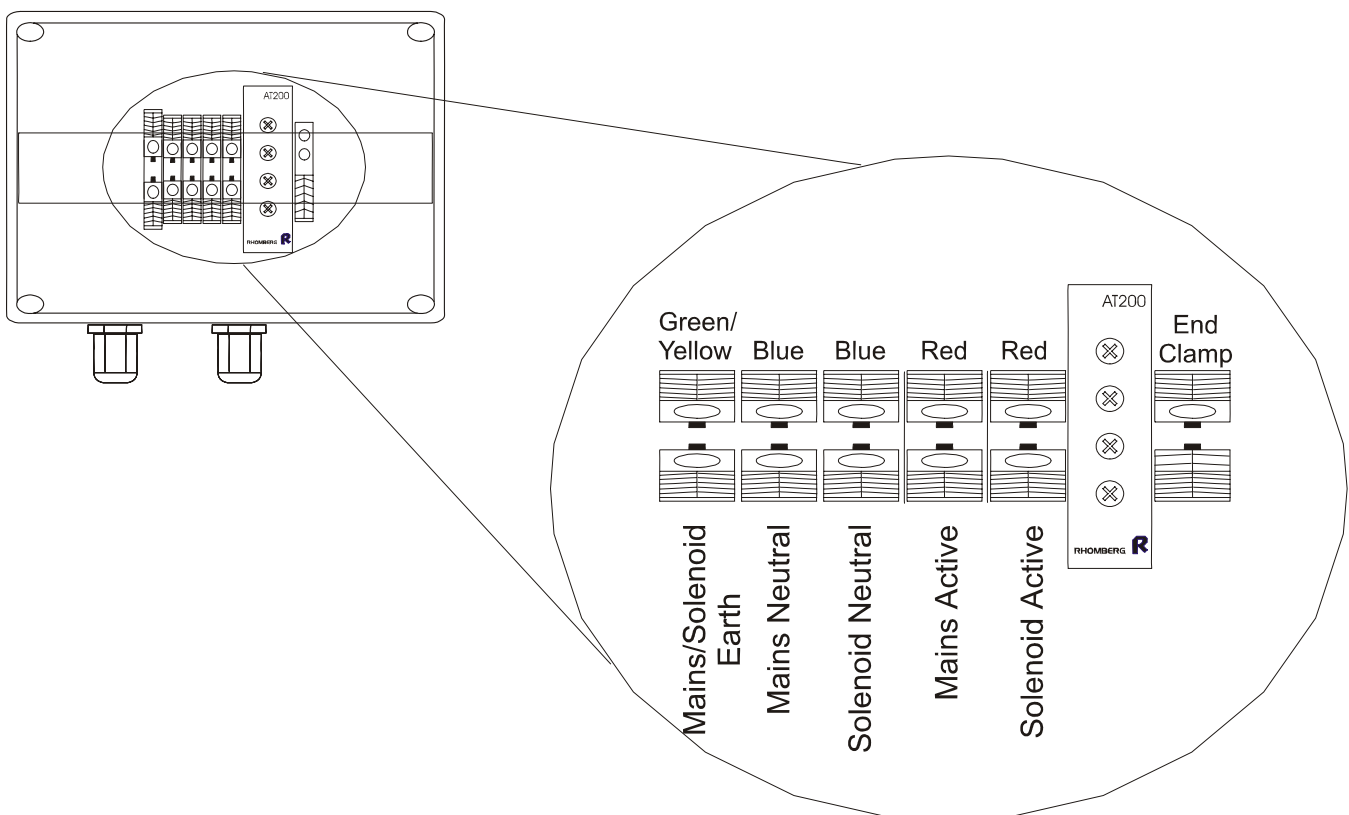
3. INSTALLATION

3.1 Mounting the AT200BB Controller & Bypass Manifold Assembly

1. Mount the AT200-WP1 controller on a flat vertical surface away from extreme heat, humidity or areas where temperature variation is extreme.
2. Mount the AT200-WP1 such that the instrument is at eye-level to allow good visibility of the unit.
3. Make up the bypass manifold assembly as shown in section 1.1 which should be plumbed from the sample line. **THIS SHOULD ONLY BE PERFORMED BY A QUALIFIED BOILER FITTER.**
4. Use sufficient PTFE tape to provide leak-proof connection to sample line and other fittings.
5. Fit point 'A' of the bypass assembly to the sample line of the boiler.
6. Fit point 'B' of the bypass assembly to the main blow-down line. If necessary, weld a socket to the blow-down line. Make sure that no manual 'bottom' blow-down takes place when doing this installation.

3.2 Electrical Wiring Information

The diagram below shows the terminals for wiring the solenoid valve.



- Terminal 1: Mains Neutral
Terminal 2: Solenoid Neutral
Terminal 3: Mains Active
Terminal 4: Solenoid Active

3.3 Y-strainer Maintenance

The Y-strainer should be cleaned periodically to maintain trouble free operation.

4. SPECIFICATIONS

Control Panel

Power Supply:	220 – 240 VAC
Standard Output:	240VAC applied to Solenoid – 5 Amp rated.
LED Indication:	Power ON, Solenoid valve Operate, Timing
Controller dimensions:	170mm (h) x 220mm (w) x 160mm (d)
Controller Enclosure rating:	IP55 (ie. completely weatherproof)
Operating Temperature:	0 - 50°C

Manifold (Included with AT200BB. Optional with AT200-WP1)

Max. manifold size:	½"
Max. manifold pressure:	10.5 Bar (1050 kPa, 150 psi)