

AUTOMATIC FILTERS, INC.

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GB6 & GB7 USERS'
MANUAL

Tekleen

Check List for Optimal Filter Performance

- [] There should be no back-pressure on the flush line. A 1" valve should have a 2" waste line, and 2" valve should have a 3" waste line. Do not use rubber hosing or flexible tubing for the waste line.
- [] The differential pressure gauge should be mounted within 3 feet of the filter. Long tubing lines will result in faulty gauge readings.
- [] The water supply line to the piston should be connected to the neck of the flush outlet and filtered by a 1/4" mini filter.
- [] The fitting on the side of all pistons is for venting only. It should be open to atmospheric pressure and pointing toward the ground.
- [] Sealant should be applied on the contact points on the backside of the d/p gauge to protect it from water. The d/p gauge should be mounted up-side down to prevent shorting of the contact points in the event of a water leak.
- [] If the filter outlet discharges to a tank, or to open atmosphere, a valve should be installed at the filter outlet to maintain a minimum working pressure of 40 PSI during the cleaning cycle.
- [] If the flush valve fails to open or close, verify the connections to the controller are wired correctly (see diagram on pg. 6-9).
- [] A surge protector should be installed before the electronic controller.

To ensure proper installation, email digital pictures with contact information to info@tekleen.com before startup.

GB6 & GB7 USERS' MANUAL



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SECTION I Introduction

Automatic Filters, Inc. features state of the art electronic backwash controllers in the GB series. GB6 and GB7 controllers are complete with a differential pressure sensor, a backwash counter, and an emergency alarm output. The GB6 controller backwashes a single filter, while GB7 controllers control up to two filters simultaneously. Both models will initiate a backwash cycle in three ways: when the differential pressure gauge is triggered, periodically by timer, or when manually activated. They are available in 115/230 volts or battery operated at 9/12 volts.

SECTION II Installation

GB6 and GB7 The controllers come factory-prepared and are ready to use. The only steps necessary for installation are:

1. Mounting the controller
2. Connecting the tubing and wires of the PD gauge
3. Connecting the power supply (AC models)
4. Connecting the wires of the electric ball valve

Mount the electric controller on a convenient wall or panel as close as possible to the filter to minimize the length of the pressure tubing. The controller can also be mounted directly on the filter itself with brackets. The pressure differential (PD) gauge/switch is to be installed on the bottom of the controller housing. The ¼" tubing from the high pressure connection (red) on the center of the PD gauge goes to the high pressure side of the filter or manifold (inlet). The low pressure connection (blue) of the PD goes to the low pressure side of the filter or manifold (outlet). If desired, the gauge may be removed from the housing and mounted at a suitable location on or near the filter.

For 110/230 Volt AC models, connect 120 VAC or 230 VAC, depending on the primary voltage in your area, to the transformer wires. The 24 VAC leads are to be connected to the terminal strip.

SECTION III Electric Ball Valve

The 24VAC stainless steel electric ball valve should be wired to the controller terminals in the following manner:

Red Wire: Connected to terminal R/+

Black Wire: Connected to terminal R/-

White Wire: Connected to terminal 1

Green Wire: Connected to ground

Consult the wiring diagrams (see pages 5-9 for your specific setup)

SECTION IV Front Panel Controls & Settings

4.1 Periodic Flush

A periodic flush will occur at the elapsed time set on the PERIODIC dial, provided a normal PD flush or manual flush has not occurred during that time cycle. The periodic switch resets after each backwash. For example, if the switch is set for one hour and a PD flush occurs at 49 minutes, the periodic flush will not start a cycle 11 minutes later. It will reset for 1 hour later. Settings range from OFF to 24 hours.

4.2 Flush Time

The duration of the filter backwash should be set in a range of 4 to 12 seconds.

4.3 Dwell Time

The GB6 controller can control 1 filter, while the GB7 models can control up to 2 filters. The controller flushes each filter in sequence, starting with filter #1. The dwell dial sets the time between successive filter flushes. It allows the 1st filter's rinse valves to close completely before the 2nd filter starts to flush, and so on. If only one filter is being controlled, this switch is not used. Recommended dwell time is 10 seconds.

4.4 Power On/Off Switch

The power on/off switch controls power to the controller and to all filter components. Make sure that this switch is in the OFF position when the system is not in use or work is being performed on the electrical system.

4.5 LCD Screen

The LCD screen displays the backwash counter. Also, when the output fuse has blown, the display indicates "FUSE," and the PD and DWELL lights will flash alternately until the fuse is replaced.

4.6 Manual Start Button

The manual start button activates back flushing of the filter(s).

4.7 Counter Reset Button

The counter reset button resets the back flush counter.

4.8 Alarm Reset

An alarm output is activated whenever the controller initiates three or more consecutive backwashes by pressure differential signal in less than 2 minutes. This alarm has both a visible light and an electrical output capable of activating a relay which can, in turn, operate a lamp or a bell. The alarm can be reset with the push button on the panel.

SECTION V Behind-the-Panel Controls

5.1 AC/DC Voltage

Tekleen controllers operate at 120 VAC at 50 Hz. and 230 VAC at 60 Hz. Battery operated controllers will operate with 12 VDC or 9 VDC.

5.2 Circuit Board Fuse

The fuse for the electronics is located between the front panel and circuit board. To replace, remove the front panel and replace with a 3 amp fuse. DO NOT replace with higher amp fuse.

SECTION VI Terminal Strip Connections

6.1 Transformer “RWR”

These transformers are three terminals which connect to the power supply from the transformer -- two red leads and one white lead. The white lead should be connected in the middle terminal. This will be pre-installed by the manufacturer. $R1 + R2 = 24VAC$
 $R1 + W = 12VAC$ $R2 + W = 12VAC$

6.2 Flush Terminal 1

This terminal controls the valve assigned as valve #1. See the wiring diagram for connections.

6.3 Flush Terminal 2

This terminal controls the valve assigned as valve #2. See the wiring diagram for connections.

6.4 Master Valve “M”

The master valve output is marked with an M on the terminal block. This output is ON at the start of each backwash cycle and goes OFF when the controller returns to IDLE. The master valve output is only used when the filter system requires the optional pressure sustaining valve at the down stream of the filter. The filter needs to maintain inlet pressure greater than 35 PSI (2.5 BAR) during rinsing.

6.5 Alarm Output “A”

These are terminals for the alarm output. The GB6/7 are available in two pre-set logic versions. The first does not disable the operation of the filter. This type is supplied. The second version does disable the operation of the filter by cutting out power to the valve(s). Reactivation of the controller is by “alarm reset.”

6.6 PD Gauge “PD”

These are terminals for the PD gauge. Polarity is not important. They are installed by either the manufacturer or by the customer. Please make sure to install the DP gauge upside down. This will eliminate any future shorts if the high or low pressure tubing leaks. You may cover the contact points with silicone or any water sealant to prevent shorting.

SECTION VII GENERAL NOTES

7.1 1st Filter Actuation

A built-in time delay of 30 seconds, before the first backwash, is activated as soon as a signal to flush (from the PD gauge) enters the controller. The purpose of this delay is to eliminate any water pressure spikes or false pressure surges from actuating a rinse.

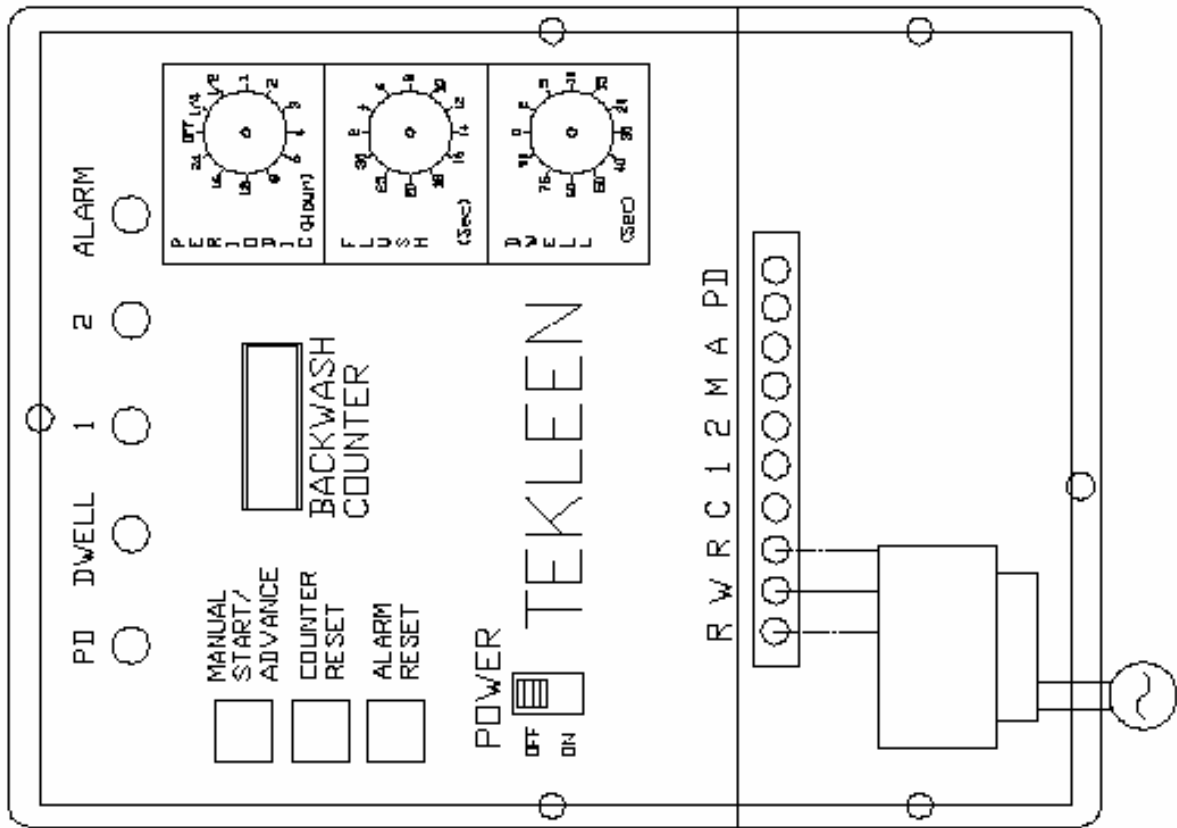
7.2 Cautions

1. DO NOT exceed output ratings of controller (3 amps).
2. Make sure output voltage is correctly set for 24 VAC or 12 VDC.
3. When using a 12 VDC power source, use only the first two terminals on the terminal block. The third terminal is not used for DC input.
4. DO NOT connect 230 VAC to a 115 VAC transformer.

7.3 Common Sense

1. You may install the controller far away from the filter, provided that the DP switch is at the filter.
2. A surge protector is needed to protect the controller from voltage spikes. Surge protectors can be purchased at any electrical supplies store.
3. It is always advisable to check and clean the mini-filter, which is located on the tubing line, between the flush outlet and the piston.

GB6 ELECTRIC CONTROLLER

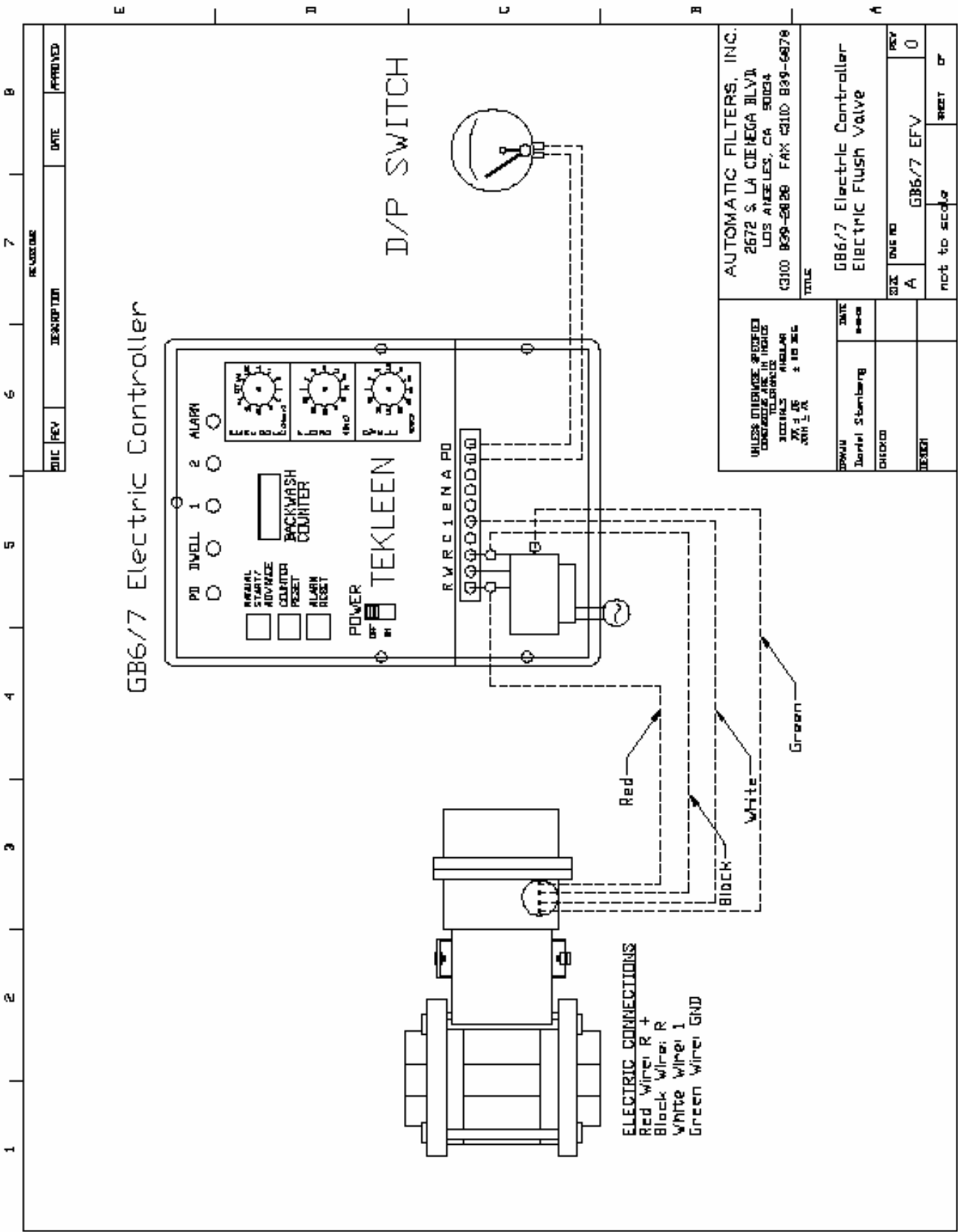


Available Features
 LCD Monitor Panel
 Backwash Counter
 Periodic Flush Timer
 Manual Backwash
 Weather-proof, UV Resistant
 Protective Case
 NEMA 3 Enclosure

Specifications
 Input: 110/220 VAC, 50/60 Hz. or 9/12 VDC
 Output: 2.5 amps at 24 VAC or 12 VDC
 Efficiency: Less than 20 millamps (idle)
 Dimensions: 10"L X 7.5"W X 4"H
 Weight: 4 lbs.

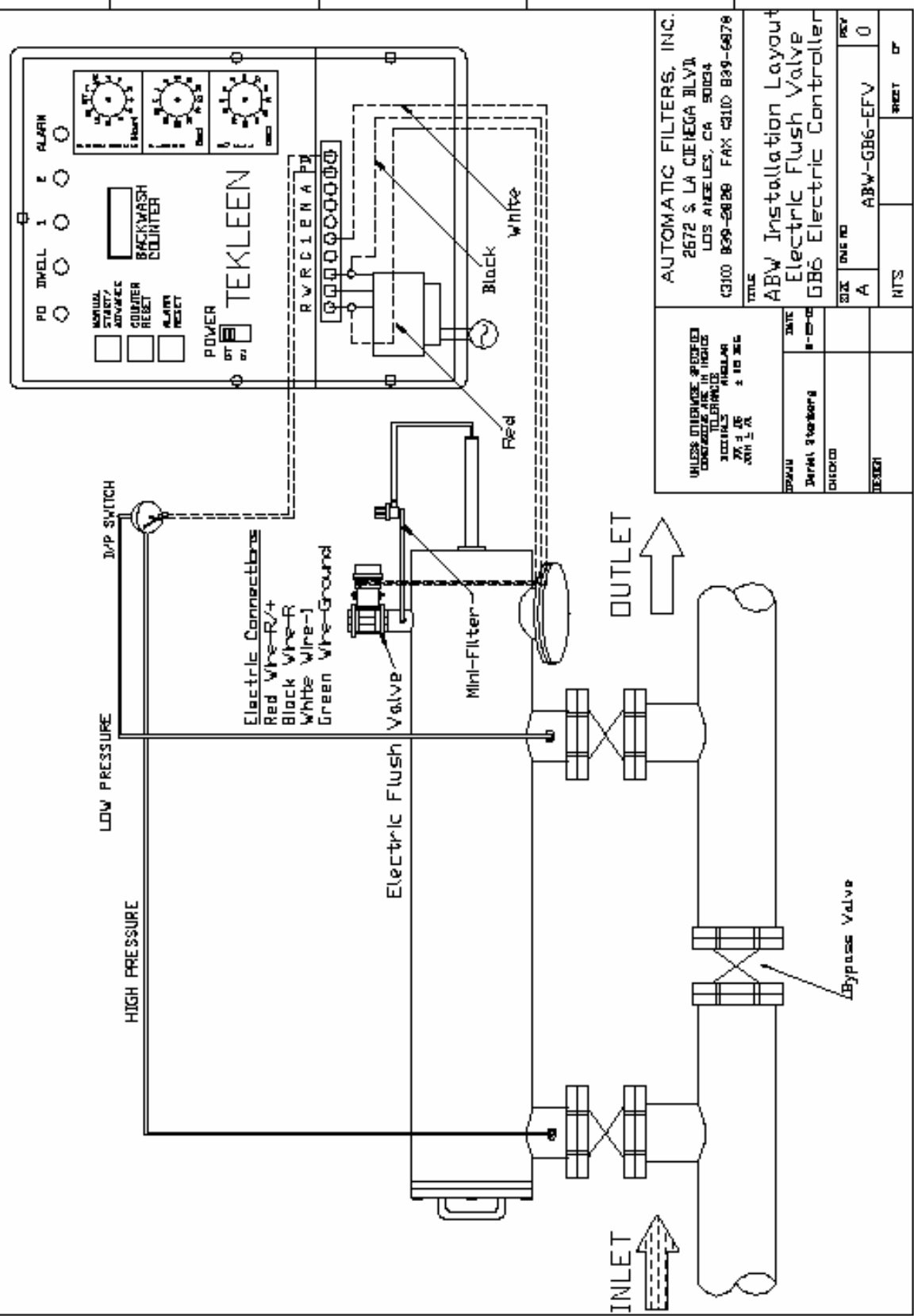
Terminal Connections
 C: Common
 1: Filter 1 Control
 2: Filter 2 Control
 M: Main Line (PSV)
 A: Alarm
 P/D: Differential Pressure

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES UNLESS NOTED ARE ± 0.005 DATE: 07/15/05		AUTOMATIC FILTERS, INC.	
DESIGN	DATE	TITLE	
DESIGNER	DATE	REV	REV NO
DRWING	DATE	A	GB6
CHKD BY	DATE	REV	REV NO
		0	0



DATE	REV	DESCRIPTION	DATE	APPROVED

GB6 ELECTRIC CONTROLLER



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE AS SHOWN
7/8" ± .005 1/16" ± .005

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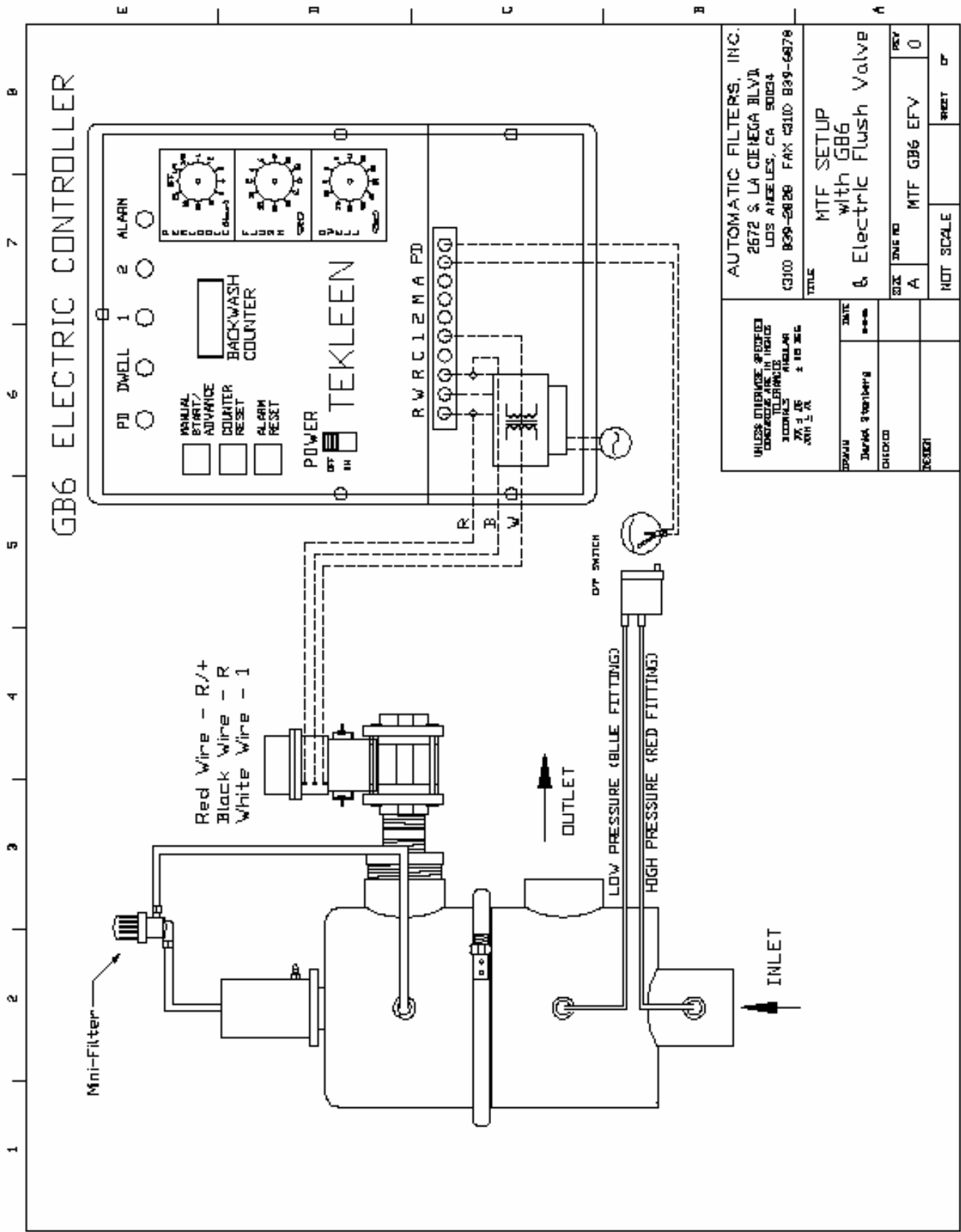
TITLE
ABW Installation Layout
Electric Flush Valve
GB6 Electric Controller

DATE
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DESIGN
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DRAWING
DIMITRI STANKOVSKI

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SHEET 07

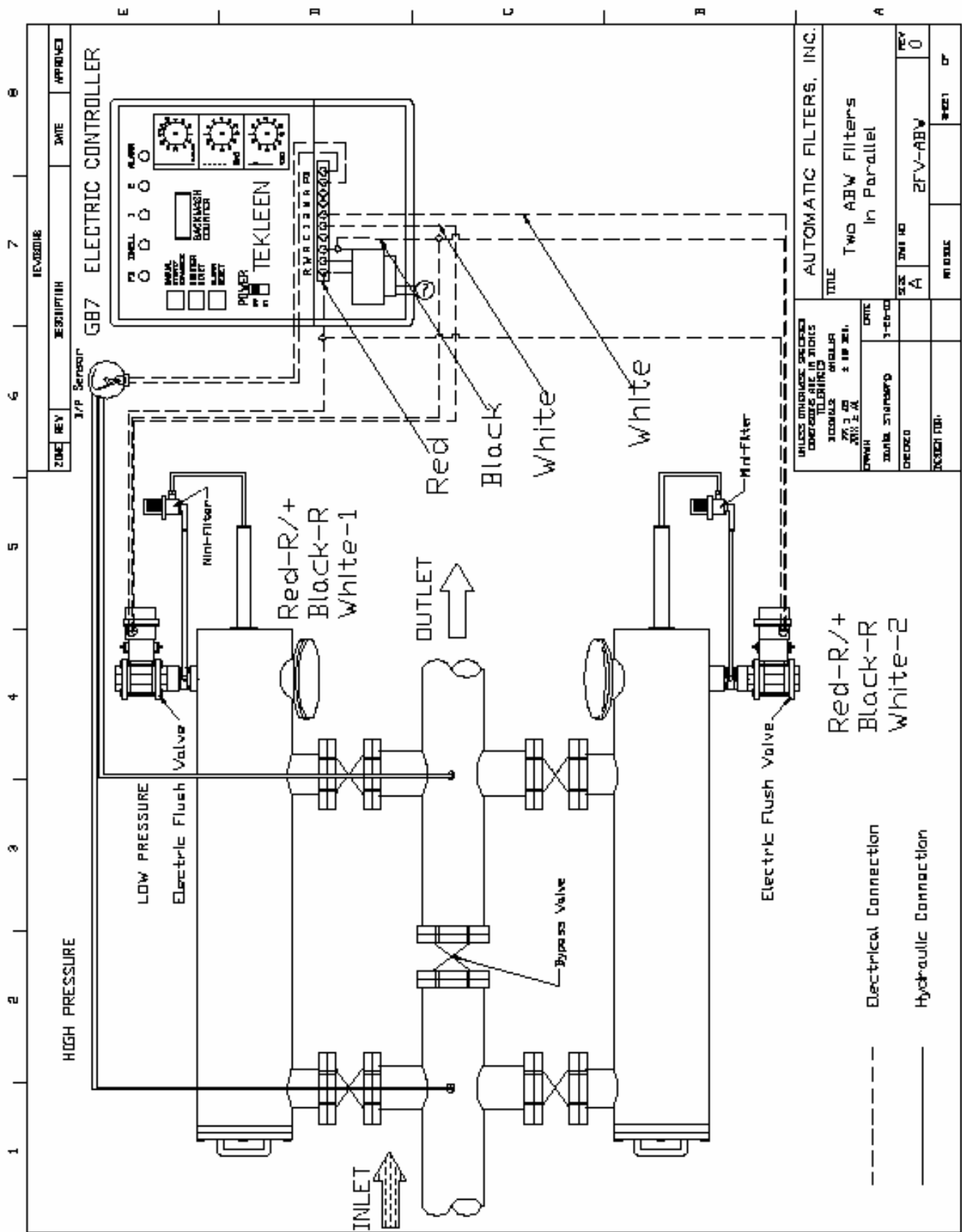


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TITLE: MTF SETUP with GB6 & Electric Flush Valve

UNLESS OTHERWISE SPECIFIED CONNECTIONS ARE IN INCHES TOLERANCES ARE AS FOLLOWS XX ± .05 XXX ± .005	DATE: 11/11/88
DRAWN: Daniel Stenberg	CHECKED: []
DESIGN: []	

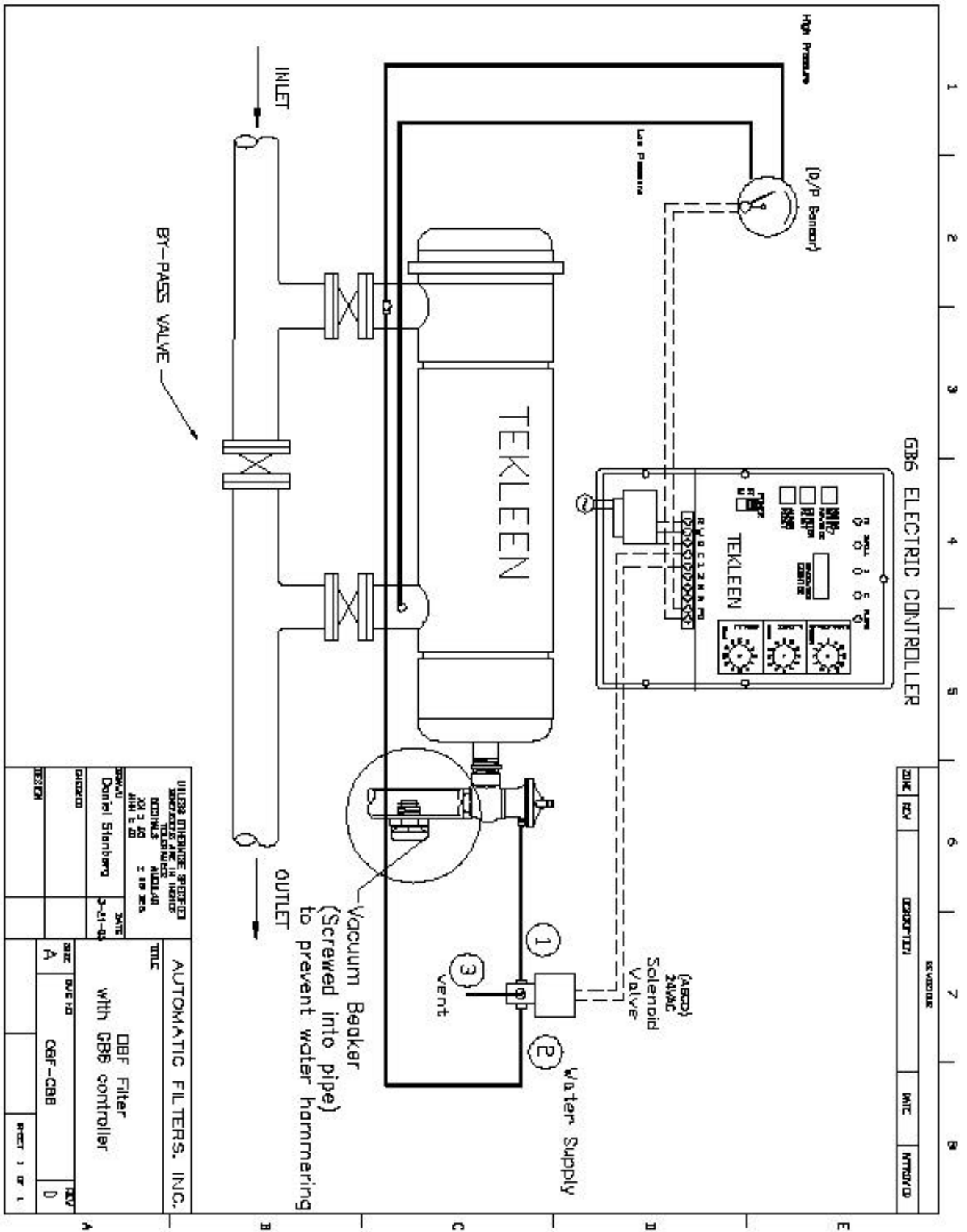
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NOT SCALE		SHEET: 07



ZONE	REV	DESCRIPTION	DATE	APPROVED
1/P	0	GB7 ELECTRIC CONTROLLER		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES		DATE
FINISH	2013.01.18	1-18-03
TOTAL STAMPED		
DRAWN		
CHECKED		
DESIGN FBI		

AUTOMATIC FILTERS, INC.	
TITLE	Two ABW Filters In Parallel
SIZE	A
REV	0
NO. IN SET	2FV-ABW
OF	07



WARRANTY

Automatic Filters, Inc. (AFI) warrants its filters and controllers to be free from original defects for one year from the date of original sale. The manufacturer will replace, free of charge, any part found defective under normal use and service within the guarantee period, provided the product is installed, used, and maintained in accordance with good engineering practice and all applicable instructions or limitations issued by AFI. The manufacturer assumes no liability for incidental or consequential damage sustained in the adoption or use of our engineering data, service, or products. Liability is limited to the repair or replacement of the products. No agent or representative of AFI has the authority to waive or add to this agreement. Altered products or use of products in a manner not intended shall void this warranty. All warranty claims must be sent along with the defective product, freight prepaid to AFI at its business address. All warranty shipments are for the account of the buyer. The warranty period shall be 12 months from the date of shipment to the client.