

Bypass Damper with Integrated Pressure Control (Part # STBP) Installation and Operations Manual

Bypass Damper with Integrated Pressure control is used to control bypass operations. The bypass damper modulates to maintain static pressure as zone dampers open and close. The bypass system reduces air noise from the supply registers caused by excessive air velocity. If the system is configured for intermittent fan mode and the system satisfies there will be a 3 minute delay to allow for system purge, after which the bypass damper will open to 25%, preventing noisy rush of air through supply registers when fan starts up on a call for heat or cool. If the system is configured for fan continuous operation, the STBP will monitor static pressure continuously, providing constant control of system static.

INTEGRATED PRESSURE CONTROLLER DESCRIPTION

- A** Supply air tube
- B** 24vac R and C
- C** Damper Terminal RO, RC, MC
- D** LED lights
- E** Adjustable Potentiometer
- F** TP1 Test Point

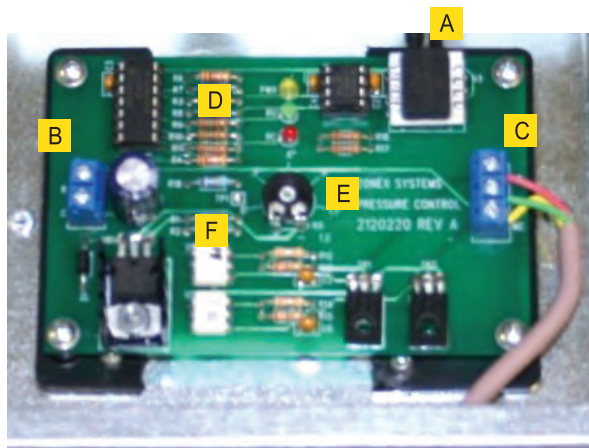
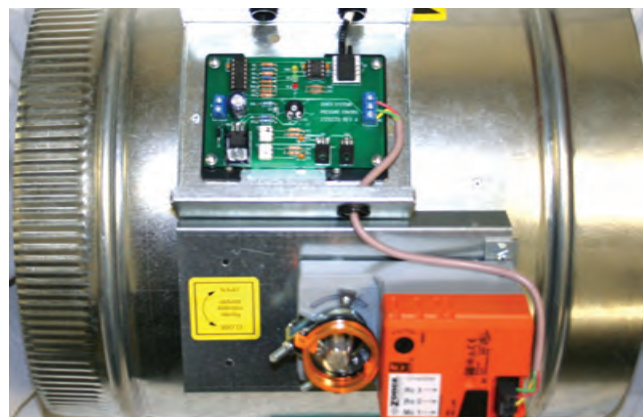


Fig. 1



BYPASS DAMPER INSTALLATION

1. Verify the Bypass Damper is sized properly to the system and not undersized. (Bypass damper sizing is recommended for 100% of system CFM.).
2. Bypass damper and controller is powered by a dedicated, 24vac 40va, transformer.
3. Do not install the bypass damper outside.
4. Locate the Integrated Pressure Control (IPC) and air tube on the bypass damper.
5. Drill ¼ hole into the side of the supply duct 2' after the bypass and before the 1st supply take off. Mount pressure supporting block over 1/4 inch hole, align hole in block with hole in duct. Use provided sheet metal screws.
6. Install air tube into supply air duct by slipping supplied plastic tubing into holes in support block and duct. Slip tube 3 inches into the duct. Pick up tubing fits snugly into provided hole.
7. Connect pressure tube from static air pick up to Intergrated Pressure Controller.

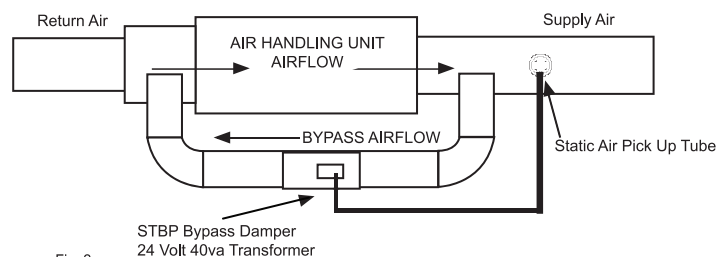


Fig. 2

BYPASS DAMPER WITH INTEGRATED BYPASS CONTROL SET UP

1. Run all supply dampers to the full open position and have blower motor running at 100% fan speed. (See note #1)
2. Manually close the bypass damper by pressing in the release lever on the motor side of the actuator. With the release lever pressed, rotate the damper actuator collar to close the damper and release the lever to lock the damper closed.
3. **Quick Set Option:** Turn the potentiometer on the damper control board to the full left position and slowly rotate RIGHT until the "RC" RED LED turns on. Now rotate LEFT just slightly, until RC LED turns off. The IPC is ready for operation. **Note:** "RC" RED LED means damper closing. "RO" GREEN LED means damper opening.
4. **Static Pressure Option:** The Integrated Pressure Control board can be field configured for specified static pressure using a multi meter and the static pressure - voltage chart. (Exhibit A). This chart shows voltage (DC) to inches of W.C (static pressure) relationship. Use a multi meter set on VDC and place the leads on the "C" terminal and "TP1" (test point one) next to the potentiometer. The voltage reading translates to inches of W.C.

Static Pressure Voltage Chart

Static Pressure	TP1	Static Pressure	TP1
INCH W.C.	Voltage (DC)	INCH W.C.	Voltage (DC)
0.1	1.49	0.5	2.22
0.15	1.62	0.55	2.27
0.2	1.69	0.6	2.42
0.25	1.81	0.65	2.48
0.3	1.85	0.7	2.6
0.35	1.91	0.75	2.68
0.4	1.94	0.8	2.81
0.45	2.06		

Exhibit A

Note # 1 To open all dampers, it may be necessary to remove Y outputs to unit on zone control board and make full cool calls on all thermostats. This will modulate dampers fully open and lock out compressor.

On Zonex Systems System 2000 GEN II and ModCom II, use air balance modes for bypass setup.

BYPASS CHECKOUT FOR STATIC PRESSURE CONTROLLER

1. Make cool call at the zone thermostat of the smallest zone.
2. Verify all zone dampers are closed except for calling zone.
3. Verify noise at zone registers is not excessive. Adjust the Integrated Pressure Controller LEFT to lower noise (airflow) or RIGHT to increase airflow until too noisy.

BYPASS DAMPER WIRING DIAGRAM WITH INTEGRATED BYPASS CONTROL

Bypass Damper with Integrated Bypass Control

