

Frequently Asked Questions (FAQ's)



What is the Zipset System?

The ZipSet System (ZS) is the ultimate answer for adjusting isolated air balancing dampers from a remote location. The ZS does away with the familiar twist or push-pull cable gadgets in favor of a "one size fits all" electro-mechanical solution. The ZipSet System provides a quick, precise and economical method for adjusting critical balancing dampers in inaccessible ductwork.

Why should I use the ZipSet System?

The ZS eliminates the need for access doors as well as custom-fitted and often cantankerous twist or sliding cable hardware, regulators, worm gears, universal joints, straight/square and round steel rods, conduit, handy boxes, or any mechanical gadgets previously associated with adjusting inaccessible balancing dampers. The ZipSet System has been carefully engineered to address several issues:

- The foolproof design saves significant man hours because it installs quickly, usually in no more than fifteen minutes, greatly reducing labor expense and eliminating guesswork.
- Because the branch balancing dampers can be located just about anywhere upstream from the room outlets, air movement noise problems are greatly reduced.
- The no-nonsense design keeps reliability up and hardware costs to a minimum.
- Efficient and precise control during the balancing phase will insure that the system will operate as designed for maximum comfort and energy conservation.
- With the Zipset System, the end-user occupant or building manager can quickly and accurately reset the air flow to various zones and air outlets as the building tenant requirements and load conditions change..... a task that's seldom been done in the real world.

How do I install the ZipSet System hardware?

Attach the actuator to the damper shaft, install the ceiling receptacle to the ceiling T-bar grid, and connect the 8' actuator cable to the ceiling receptacle. That's it. The entire installation can usually be done in less than fifteen minutes by anyone with a 1/8" hex wrench, a cordless drill and 4 self-drilling sheet metal screws. A simple set of instructions is available at www.zipset-hvac.com. However, the ZS design is so intuitively obvious, almost anyone can install the ZSA-1 damper actuator and the Ceiling Receptacle Bracket (CRW-A-1) without any written instructions.

What type of actuator is used with the Zipset System?

The actuator provides 45 lb-in of torque and was designed from the ground up for use with the ZipSet System. It accepts damper shaft sizes from 1/4" to 1/2" in square, round, or hex profiles and is adjustable for external duct wrap insulation up to 2 inches. The actuator operates from a 9vdc battery in the Model HHC hand held controller and will reliably operate free moving dampers up to 12 square feet at a face velocity of 2000 FPM. The ZipSet actuator is available factory-installed on round balancing dampers for use on plenum and linear slot diffusers.

Frequently Asked Questions (FAQ's)



What happens to the Hand Held Controller (HHC) after the job is finished?

Dispensing of the HHC will likely be specification dependent. A logical scenario is that at least one HHC will be turned over to the building facilities manager for their future use. Since the HHC is very ruggedly built and protected by an industrial grade rubber boot, it will be at home in almost any tool box. It's also likely that the HHC will become a permanent part of the mechanical and/or balancing contractor's tool kit.

Are there any trade conflicts with using the Zipset System?

Not likely. The simplicity with which the actuators, ceiling receptacles, or remote panels mount, and the single low voltage signal cable connection that is not tied to building power should negate any trade conflicts.

Can the damper be set to control the air flow to a prescribed quantity?

Yes, provided system operating parameters remain static. Balancing dampers, by definition, maintain a set position. The Zipset System is designed to lock the balancing damper in its final position when power to the actuator is removed. It cannot correct for changes in duct pressures.

What maximum size balancing damper will the Zipset actuator operate?

The ZSA-1 will operate up to 12 Sq. Ft. of total area at two inches wg, at a maximum 2000 FPM flow rate. Of course, as with any actuator, the damper and its internal linkage must move freely prior to installing.

Will the Zipset System increase or decrease noise?

When installed some distance from the air inlet / outlet (not directly attached to the diffuser collar), the resultant room sound levels will decrease. Because the ZipSet System allows the inaccessible balancing dampers to be placed almost anywhere upstream in the branch duct, it reduces air movement noise at the room outlets. Other technologies for remote damper control are very limiting since they require the damper to be placed within a few feet of the neck of the air devices.

Explain the design of the Ceiling Receptacle Bracket (CR) and Cover Plate.

The Ceiling Receptacle (CRW-A-1) is the sole interface between the pre-installed damper actuator and the occupied room side of the ceiling. It is designed to easily mount to the side of any industry-standard T-Bar support grid using only two self-drilling sheet metal screws. The CRW-A-1 is truly multi-tasking because (1) it has a built-in cable take up spool for the extra length cable to keep it from drooping below the ceiling, (2) it provides the power and signal connector to the actuator and (3) provides the means for supporting the ceiling cover plate when the balancing task is finished. Of particular note is that the CRW-A-1 design eliminates any need for extra framing, handy box or miscellaneous hardware for support. At the completion of the balancing phase, the support "finger" is removed and the cover plate simply screws up snug to the ceiling surface. The cover plate self-adjusts to ceiling panel thicknesses up to 2 inches. Special cover plate materials and longer screw lengths are available for special projects such as in security ceilings. Complete details for the CRW-A-1 and Cover Plate are available on the website.



Frequently Asked Questions (FAQ's)

What is the maximum signal cable length that can be used to operate the actuator?

The ZipSet actuator includes an integral, factory-wired 8 foot plenum-rated (CMP) cable which will meet most installation requirements. However, this length can be easily extended with available extension cables (EXT-MF) of 10, 20, 30, or 50 foot cable sections, up to a total length of 150 feet. Standard RCA connectors on each end of the cables allow connecting cables in series as required with the use of any tools.

Does the Zipset require an access door?

No. In fact, it ELIMINATES them. This is the feature that will endear the ZipSet System to Architects and other interior design professionals.

What labor savings are realized when using the ZipSet compared to other devices?

First, the Mechanical and/or Sheet Metal contractor can more closely estimate the installation time, which is realistically five to ten minutes or less for the ZSA-1 actuator and the same for the ceiling receptacle. With most mechanical cable systems, you can never be sure if it would average thirty minutes or three hours to install each mechanism. On a project having 20 or maybe 100 damper locations, this can be a significant "guesstimate". Second, due to the ingenious simplicity of the ZS design, the contractor's installing personnel have minimal installation issues since there is no such thing as a "custom" installation. One size fits all. The only variable is the length of the power/signal cable and that is done without the use of any tools for cutting or splicing. And even if you guess the cable length wrong, you just wind the excess onto the built-in take up spool. Third, when straight, square rod, universal joints, slide or twist cable mechanisms are used to operate branch balancing dampers, there's always some field assembly required, usually at BOTH the damper and ceiling ends of the device. There will very likely be measuring and field cutting the square rod or the slide/twist wire cable (which is often provided in "raw" lengths such as 25, 50 and 100 foot coils). Then there's the handy box or bracket or "cup" at the ceiling, usually requiring some sort of support frame, which adds the issue of who is responsible for furnishing the framing (mechanical or ceiling contractor). Fourth, there is always the "Oops Factor" element of improper assembly or maybe too long a length or too sharp a bend radius will keep the mechanism from operating properly. The final benefactor of the Zipset System is the balancing contractor. Airflow adjustment is conveniently made room-side with the press of a button on the Hand Held controller.

How accurately does the ZipSet System control the damper?

The blade position is infinitely variable in CW or CCW rotation and is completely controlled by the balancing technician. As the technician is observing air flow readings downstream from the balancing damper, the HHC Hand Held Controller will modulate the damper in both CW and CCW rotations until the design airflow rate is achieved.

What is the expected life of the HHC Hand Held Controller battery?

The controller uses a standard, non-rechargeable, replaceable 9vdc battery. The life of the battery is somewhat dependent on cable length, duration of turning the dampers CW or CCW, and mAh rating of the battery. Conservatively, total runtime should allow at least 50 adjustment actions on one battery.

Frequently Asked Questions (FAQ's)



What holds the damper in position after the balancing task is finished?

The gear train design of the ZSA-1 ZipSet actuator insures that the output shaft cannot move when power is removed from the drive motor. Whatever position the damper blades assumed when the power is disconnected by the balancing technician will be its locked position. Re-adjusting the balancing damper at a future date is just a matter of re-energizing the actuator with the HHC. As a test for free damper blade movement during the actuator installation, there is a manual adjustment feature on the actuator housing which can be operated with a screwdriver.

Describe the Multi Input Remote Panel (RP) and its purpose?

In some applications, rather than discrete Ceiling Receptacles in the ceiling near each balancing damper, it may be advantageous to have the power and signal cables from several damper locations merge at a single control panel. The panel allows adjustment of individual dampers from one location. The Remote Panel is ideally located in a utility or equipment room. This setup works especially well in projects such as residential, and condominiums, high security areas, or high-end retail shops, or anywhere there is elaborate hard ceiling construction where not even the small round cover of the ceiling receptacle is allowed. With local control always available at the RP remote panel, the owner-occupant can reset each connected zone as conditions warrant. Each ZipSet System Remote Panel is available with 1, 2, 4, 8, or 12 nodes (ZipSet actuators).

What happens to the power/signal cable from the actuator after connecting to the Ceiling Receptacle if it is too long?

Any extra length of the cable between the actuator and the ceiling receptacle is taken up on the built-in "spool" on the top of the CRW-A-1. This keeps an undesirable cable "droop" from forming below the ceiling panel plane.

If you didn't find the answer to your question, please let us help by going to the Contact Us page where you can email or phone our office for help.