

# CASE STUDY

## Hotel Intercontinental, Chicago, Illinois

### Providing a Good Night's Rest for Hotel Guests

**Application:**  
Hotel

**Griswold Controls Solution:**  
Automizer® combination control valves  
Coil piping packages

**Contractor:**  
Bovis Lend Lease, Inc.  
Tobin Stanley

**Engineer/  
Consultant:**  
Edwards Engineering  
Marc Crampton

**Rep Group:**  
Imbert Corp  
Bill Toth

**Completion Date:**  
2000

Griswold Controls is  
ISO 9001:2000  
Certified

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The Hotel Inter-Continental had a problem on their hands. Due to outdated two-pipe fan coils, guests in the hotel's North Tower had limited control over heating and cooling in their rooms. Depending on the season, or even the time of day, either cold or hot water would run through the fan-coil units, but never both. In addition, the fan coils were a bit noisy, a little unsightly, and robbed the guest rooms of precious space. When the landmark Chicago hotel began a major renovation in 2000, the engineers chose a less-intrusive fan coil with a more flexible four-pipe system.



The Hotel Inter-Continental was built in 1929 as the Medinah Athletic Club. The contemporary North Tower was added later.



#### Cramped Spaces Prompt Ingenuity

During the renovation, more than 500 fan coils were replaced in North Tower guest rooms. This time, the fan-coil units were installed above the ceiling in the entry vestibule of the guest rooms. Although this kept the units out of sight, it presented a new set of challenges. First, it left only 12" of vertical space for the manual balancing system. Second, it severely limited the accessibility of the coils for servicing and balancing. Seeing the need to conserve space and minimize labor in this small area, Tobin Stanley of Bovis Lend Lease, Inc., the general contractor, contacted Griswold Controls. "We were trying to do anything and everything we could to save space," Stanley said. Working with Bill Toth of Imbert Corp, the Griswold Controls sales representative in Chicago, they determined that pre-assembled coil piping packages with Automizer® combination control valves were the ideal solution. "This gave the client the opportunity to purchase prefab equipment and just put (it) in," Toth said. "This also meant that installers would spend minimal time on the site, so only two floors would have to be closed at a time."

#### Coil Piping Packages Provide Numerous Benefits

The balancing cartridge in the Automizer is factory preset to automatically limit the flow for each room or zone, eliminating the need for startup balancing and any subsequent rebalancing. Marc Crampton of Edwards Engineering, the contracting firm responsible for the HVAC portion of the project, described what startup balancing would have entailed had the hotel gone with typical manual balancing components. "We would have spent approximately 30 to 45 minutes per coil balancing the system," he said. "With two coils per fan coil and 518 fan coils, that would come to about 700 hours of labor." Crampton said the automatic balancing packages probably saved the hotel approximately \$35,000 in start-up labor alone, "And that's a conservative esti-

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mate," he said. "We would have had to go into each room two or three times prior to startup just to get the system balanced and then go back once a year after that for routine maintenance."

For this project, the standard coil package selected included the flow limiting cartridge of the Automizer combined with a low-torque, equal-percentage actuated ball valve and factory mounted Siemens actuators, which open and close the control valve portion of the Automizer. The entire piping package, including isolation ball valves, flow limiting cartridge actuated ball valve, air vent, strainer, and union connections, takes up approximately one-fourth of the space that a typical manual piping configuration would require.

Limited space and the desire to reduce balancing labor were not the only concerns. Guest occupancy was another. With the hotel needing to keep as many rooms as possible occupied during the renovation, manual balancing would have represented a significant inconvenience and loss of revenue. Contractors would have to go into all of the rooms several times, tweaking the system until it was in balance. This would have made confining the work to just two floors at a time impossible - either guests would have to be disturbed, or the hotel have to postpone occupancy throughout the tower until the entire job was complete. In all, 1,094 Automizer coil piping packages were installed in the North Tower.

### **Trouble Free Balancing, Increased Comfort**

The heart of the Automizer combination control valve is a stainless steel cartridge with factory cut orifices designed to meet the job's control parameters. Below the control range, the cartridge acts as a variable flow device, allowing flow to vary below the rated amount, as controlled by the actuated ball valve. Within the control range, the cartridge modulates in response to pressure differential changes, maintaining a fixed flow rate with a +/-5% accuracy. Above the control range, the cartridge acts as a variable control device, allowing flow to vary above the rated amount. The stainless steel cartridge automatically prevents the flow from reaching levels exceeding the fan coil's specifications.

With the renovation complete and the North Tower in full operation, Kees Guijt, regional director of engineering, reports there has been a significant drop in guest complaints regarding room comfort.

## **Automizer® combination control valves**



Automizer® *Next Generation* combination control valves feature Griswold Controls' patent pending field repairable stem design, providing resistance to today's chemical treatments and to temperature fluctuations following evening system shutdown. In addition, they allow

for field servicing without having to remove the valve from the system.

Automizer all-in-one valves combine an actuated temperature control valve with our stainless steel automatic flow limiting cartridge. The Automizer contains the entire return side of the coil in one valve: a flow limiting valve, an actuated 2-way control valve, and a manual isolation ball valve. In addition, these valves feature the patented Optimizer for equal percentage flow characteristics. Automizer valves are ideal for schools, office buildings, VAV boxes, fan coil units, heat pump installations, and terminal boxes

## **Coil Piping Packages & Hose Kits**

Griswold Controls' Coil Piping Package program includes over 900 standard packages. Engineers do not have to design or detail the various elements that are required at the supply and return end of each coil. They can just select one of Griswold Controls standard packages, which are available for both automatic and manual flow control applications. We also offer downsized components to the automatic temperature control as a standard package. Standard packages up to 2" ship within 48 hours after the order is received direct to the job site, pre assembled and ready to install. If variations to the standard packages are necessary they can be readily accommodated, but they will affect the 48 hour ship time. In addition, options such as hoses and extension kits can be easily added, but similarly this will increase the lead time.

Coil Piping Packages and Hose Kits are pre-plumbed solutions for specific piping needs, saving time, labor and money, while offering the added convenience of hassle-free product distribution at the job site

### **Standard Packages offer:**

- Wide selection of pre assembled, easy to order configurations
- Easy ordering: order by specific part numbers
- Timely delivery
- Variety of options: downsized automatic temperature control, extra pressure / temperature ports, and the inclusion of Griswold Controls Automizer combination control valves or Unimizer actuated control valves

Common Applications: Anywhere labor costs or the number of leak points in the system need to be decreased