



Bell & Gossett Provides Unique Flow at Colorado Aquarium

Replicating several real-life environments, ranging from an Indonesian rainforest to Mexico's Sea of Cortez, within a new state-of-the-art building presented serious engineering challenges to the developers of Colorado's Ocean Journey aquarium in Denver. Thanks to Bell & Gossett pumps and heat exchangers the sea life, animals and humans are comfortable year-round.

Housed in a compact 106,500 square feet, COJ is home to 15,000 specimens-representing more than 300 species of fish, birds, mammals and invertebrates-and one million gallons of water that must be treated, filtered and recycled everyday. In addition to the complex life support system required by the exhibits, COJ's HVAC system must also comfortably accommodate a staff of nearly 200 employees, more than 700 volunteers and approximately a million visitors annually.

Many Unique Challenges

Housing such a large amount of sea life and animals in such a compact area presented many challenges and special considerations that required numerous designs and specifications.



Bell & Gossett heat exchangers and pumps are vital to maintaining proper water temperatures for the aquarium's marine exhibits.

Bell & Gossett's ESP (Equipment Selection Program) software was employed in the selection of all pumps incorporated in the COJ project. Output from ESP was used at every opportunity in the design stage to accurately and quickly size the pumps as needed to keep pace with the project.

Among the products used in heating and cooling the buildings are two Bell & Gossett Series 60 pumps, two Series 80 pumps, seven Series 1510 pumps, seven triple duty valves,

seven suction diffusers, two Rolairtrol Air Separators, two air vents, three tank heaters and seven GPX plate heat exchangers.

Water Temperature Regulation and Life Support

Temperature regulation of the aquatic exhibits is critical, requiring Bell & Gossett heat exchangers and pumps to keep the water flowing at the proper temperature.

Keeping the water processing system running at all times is critical to the survival of the water creatures in the exhibits. The COJ life support system operates in a closed loop, using several Bell & Gossett pumps.

The water treatment equipment, or life support system, cycles water through the exhibits from every 30 minutes for the smaller exhibits to every 90 minutes for the larger ones. One exhibit has a volume of 320,000 gallons and a recirculation rate of 3,200 gallons per minute-the equivalent of processing water for a city the size of Colorado Springs.