

BOTTLENECK SOLVED – A CIRCOR SOLUTION GETS A BEVERAGE BOTTLER BACK ON TRACK



OVERVIEW

A world-renowned beer brewer bottling plant in Mexico City needed a high volume of hot water at a steady temperature (155-degrees F° or 68.3-degrees C°) to clean bottles before they were filled with beer. The system is designed to automatically shut down when the 155-degree F° temperature was not met. The plant utilized a sanitizing system with 30 nozzles to clean the bottles with hot water. When working properly, the system had the capacity to fill an average of 5,000 bottles per day, with each bottle automatically cleaned, dried and filled. The plant experienced a challenge when proper water temperature was not being maintained, which triggered the automatic shutdown. The shutdown stopped the entire system every 15 minutes for about 10 minutes causing delays in bottling and decreasing productivity.

CHALLENGE

The plant had bottle cleaning efficiency issues at its manufacturing facility in Mexico City. Downtime caused by insufficient water temperature was causing disruptions to the bottling operation and the plant's productivity outputs.

SOLUTION

An experienced channel partner, Moon División Industrial, seamlessly integrating CIRCOR's products and products from other sources, got the plant back on track with a 67% increase in bottling production.

FROM PLANNING TO IMPLEMENTATION

A site visit was held at the manufacturing facility to view the existing equipment, do an inspection and gather data. After the evaluation a piping and instrumentation diagram (P&ID) was created with a list of parts in order to come up with a solution that would help the plant reach a consistent 155-degree F° temperature throughout the bottling cleaning and rinsing process.



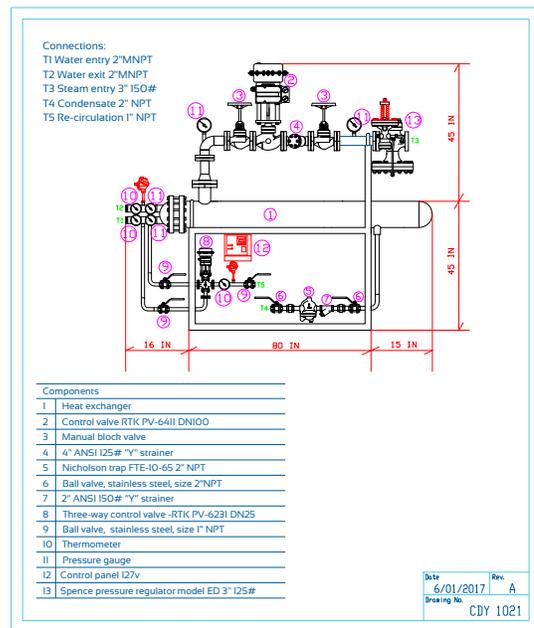
After the hot water problem was solved, daily production went from 3,000 bottles of beer to 5,000 a 67% increase in yields.

It was discovered that the problems with the existing system were due to the faulty configuration and placement of certain components and the inefficiency of regulators and valves. This caused the temperature to continuously drop to 120 degrees F°. To remedy this, the solution consisted of the customization, implementation, and seamless integration of stock parts from CIRCOR. The products included a 3-way and standard valve, control valves, pressure regulators, temperature regulators and steam traps.

CIRCOR products were chosen because of CIRCOR's long-standing reputation for excellent quality and the wide spectrum of products that are readily available and easily integrated into solution applications in steam, HVAC and heating systems. Additionally, the channel partner was able to proceed confidently with this solution having previously installed 12 other systems for major manufacturers, using a similar configuration of CIRCOR products. Other multinational consumer packaged goods organizations in the food and pharmaceutical manufacturing, were amid the few companies benefiting from the channel partner's expertise and their utilization of CIRCOR products and application solutions to provide consistent hot water capacity in this industry's applications.

RESULTS

Three weeks after the purchase order was received and two months after the initial consultation and planning phase, the new system was successfully implemented. The bottling plant had a solution that consistently provided hot water at the required 155-degree F° temperature. The plant has been running continuously and successfully since the system was installed with no more down time. The continuous flow of hot water has contributed to uninterrupted production at a rate of 5,000 bottles per day. Before the solution, with the inconsistent hot water capacity, only 3,000 bottles were produced in a day. Consequently, efficiency went from 3,000 bottles per day to 5,000 generating a 67% increase in productivity.



The solution consisted of the customization, implementation, and seamless integration of stock parts from CIRCOR.

In addition, utility costs were climbing and approximately 21,120 gallons of water were wasted daily, costing the bottling plant and average of \$6,720 per month. With the new CIRCOR solution, water waste was reduced, saving the bottling plant roughly \$80,640 per year in water bills. The savings were enough to pay for the new equipment in just four months.

The channel partner, Moon División Industrial, attributes the success of this project to a well thought out plan based on his previous experience with similar applications and to CIRCOR having the right parts in stock to build the solution.

On a continuing basis the channel partner offers follow ups and tech support to the bottler and they are readily available to ensure that the manufacturing facility maintains its current highly efficient system.

THE SOLUTION INCLUDED THE FOLLOWING CIRCOR PRODUCTS



A. THREE-WAY CONTROL VALVE
Brand: RTK
Model: PV-6231
Body: Steel
Actuation: PM16 (Pneumatic)
Plug/Trim: Diverting
Size: 1"

B. CONTROL VALVE

Brand: RTK
Model: PV-6411
Actuation: PN16 (Pneumatic),
Air Regulator
Body: Steel
Size: 4"

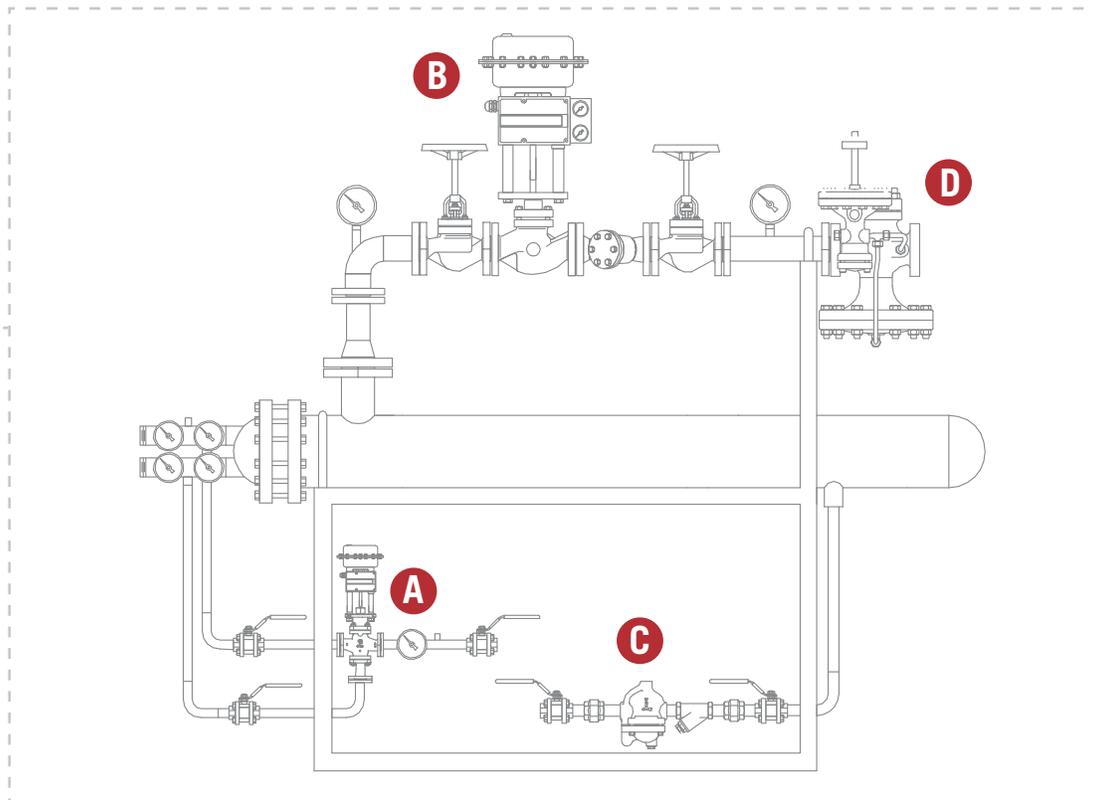


C. STEAM TRAP

Brand: Nicholson
Model: FTE-10-65
Float/Thermostatic
Body: Steel
Size: 2" NPT

D. PRESSURE REGULATOR

Brand: Spence
Model: E-Main
Body: Steel
Range: 10-100 PSI
Size: 3" ANSI 125#
Optional based on
differential inlet pressure



SOLUTION: HOT WATER SANITATION

LOCATION: MEXICO CITY, MEXICO



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