

# TECHTORQUE NEWS

**Volume 4  
Issue 1**

## Multivoltage

# J + J

## Electric Actuators

**J2-L20 / J2-H20**

Up to 20Nm

**J2-L55 / J2-H55**

Up to 55Nm

**J2-L140 / J2-H140**

Up to 140Nm

**J2-L300 / J2-H300**

Up to 300Nm



A cost effective 1/4 turn solution for automating ball valves, butterfly valves dampers etc.

Welcome to the first issue of Techtorque for 2007. Your feedback about our newsletters as well as your suggestions for any particular products or applications that you would like to read about is always welcome. With your input, we will do our best to provide you with informative and relevant reading matter. Please email your comments and requests to our Sales and Marketing Manager, Chris Hoare, at [choare@acrodyne.com.au](mailto:choare@acrodyne.com.au).

### YTC 2300 Smart Positioner

State of the Art, compact and reliability are the key words that describe the YTC-2300 Smart Electro pneumatic Positioner. Housed in an aluminium die cast epoxy coated polyester powder coated IP66 enclosure or 316 stainless steel (YTC-2350), the YTC-2300 is offered in both rotary and linear design. Incorporated in its design is an easy to see LCD display offering logical auto calibration and parameter setup. The option of Hart Communication and 4-20mA Feedback signal are available in both linear and rotary design.

### Amalga Composites new composite roller for the Printing Industry

Amalga Composites, Inc. (ACI) was approached by a large converting company and tasked with replacing a hard anodized aluminium idler roller with a carbon fibre composite roller. The result was a new coating that could be used in direct food contact, dubbed FGA-Z coating. The lower weight composite roller would allow the converter to operate his equipment at a higher line speed than he could attain with the heavier aluminium idler roller.

### Beck Group 42 Linear Actuator

In late 2006 Beck introduced the Group 42 drives designed to meet the actuation needs of long stroke linear applications such as burner air registers, OFA port dampers and can be used on any application requiring up to 18 inches of linear stroke. Like all Beck drives, the Group 42 is designed for simple installation, no duty cycle limitations, excellent performance and little or no required maintenance.

For more information on Beck products please contact Bruce Fellowes on (03) 8727-7800

### This Editions Character Quality

## Sensitivity

Perceiving true attitudes and emotions

... Understanding others.

... Managing our attitudes and emotions.

... Communicating clearly and effectively.



A key to sensitivity is empathy.

Sensitivity seeks to identify the attitudes, feelings and behaviors of another person, and "put ourselves in their shoes" in order to best understand and appropriately respond to a situation. Close observation and careful listening enable us to be sensitive to the needs of co-workers, customers and staff.

### Why is Sensitivity important?

90% of an iceberg is concealed below water level. Sensitivity enables us to discern what is happening below the surface, behind people's external appearance in daily situations.

More information?

Contact Philip Greenwood at People and Culture

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### Who is ACRODYNE's biggest loser?

As a new series of the popular reality show "The biggest loser" hits our screens, someone at ACRODYNE has begun a weight loss journey of their own. Late last year our fearless leader Rod Mason began a well publicised diet program and has shed an amazing 17kg. His efforts have improved his abilities to scorch around the basketball court and have inspired many of us to change our eating habits.

# BECK

## Electric Actuator / Beck Comparison

### TECHTORQUE ARTICLE

## “BECK” VS. CONVENTIONAL ACTUATORS

*The following is based on Actual Industry feedback received from customers in the North-East US territory:*

The key difference between a “Beck Modulating Drive” and “conventional” actuators is in the motor design. The conventional actuators use an induction motor with high in-rush current and thermal overloads, which inherently limit the duty cycle and modulating ability on valves and dampers of moderately active loops. Most literature limits the motor stops/starts to 10 per minute. Several facilities have experienced problems with the motor contacts burning out because of the design limitations being exceeded, which in most cases are considered less than normal modulating service, and also leading to complete motor failure.

From a control standpoint, the competition cannot position as accurately or as quickly as the Beck Drive because of the high inertia and high speed of the motor, which leads to coasting and overshoot of the target setpoint. The constant struggle to maintain position on an active loop is another reason for motor failure. The mechanical design also limits the positioning ability over time. As the bronze worm gear wears, the actuator loses its ability to maintain back-driving loads, which can result in oscillation and over-modulation. The film pot on the actuator has also been referred to as a weak point and one that requires extensive disassembly to access.

*This brings us to the next issue, actuator service.*

According to our information, the complexity and accessibility of conventional actuators can be likened to that of a Swiss watch, which requires specially trained personnel to service. In one case, a plant had to call in an independent service technician every time they had a failure, which became very costly and slowed production. In many cases factory support and documentation were noted as being poor and as unreliable as the units themselves. The actuators require extensive disassembly in order to access any of its electronics or internal components. Unlike a Beck Drive that is compartmentalized for easy access of all components, the other actuators have to be completely disassembled to service them or access the electronic circuit boards, which is also susceptible to failure due to over-modulation and/or vibration.

Because of the cantilever design of some other actuators, which hangs the electronics off the end, even normal vibration can sometimes wreak havoc on these components, leading to failure.

Overall, the competitor actuators are relatively inexpensive in design and are not really built for the same level of industrial services. They are better suited, primarily for open/close applications and have been found to perform poorly and are unreliable in higher cycle modulating applications. Ultimately, in many cases, the wrongly specified actuators will cost a facility more in the long run.

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**For more details contact**

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