

# TECHTORQUE NEWS

**Volume 5  
Issue 2**

Welcome to the second issue of Techtorque for 2008. 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).

### Koei helps to put out the fire

The Koei 24 VDC Electric Actuator continues to be the smartest choice for valve actuation in the Fire Fighting Industry. Renowned for its compact and light weight simple design with a rugged structure for high durability, it's quick travel time of 4 seconds (24VDC only) and output torque of 40 Nm delivered from self-locking worm gears makes it the ideal choice for such critical applications.



### New to Acrodyne - Flowbus

If you are in need of a rugged and reliable solution, Flowbus offers a competitive package without compromising quality. Offering heavy duty performance the EP series actuator is ideal for oil, gas, marine and chemical industries. Flowbus can offer the optimum choice of actuator for your requirements from their extensive range. Flowbus are able to provide both symmetrical and canted yoke designs, meeting most quarter-turn valve torque requirements. The wide range of actuator models and torque outputs ensure the most economical actuator selection.



*More information on Flowbus to follow in upcoming Techtorque issues.*

**2nd Annual WIOA NSW**  
*Water Industry Engineers  
and Operators Conference*

**Newcastle Jockey Club**  
*Darling St, Newcastle*  
**8th to 10th April 2008**



"Acrodyne will be there  
come and say hello"

**New from YTC**

**YT-2600 series**  
**Fail Freeze Type**



- Freezes in current valve position when a loss of pressure or failure of input signal.
- Save plant operating costs
- Auto calibration
- PID control
- Alarm
- HART protocol

Please call (03) 8727-7800 for more information on this or any other of our products

## CHARACTER FIRST HUMILITY

Acknowledging the investment of others in my life

- ... Build an Effective Team.
- ... Assist Co-Workers.
- ... Develop friendships.



### 5 Keys to Building Humility:

- "Get a perspective" – we always rely on people around us.
- "Share the credit" – remember those who have helped you.
- "Build teamwork" – greater achievement is possible through teams.
- "Seek advice" – admit we need help and remain teachable.
- "Serve others" – have a go at those jobs no-one else wants.

### Why is Humility important?

Humility enables us to take care of the little things that make a significant difference.

For more information regarding Character First contact Philip Greenwood at People and Culture on (03) 9018 7971 or 0411 131 449 [www.peopleandculture.com.au](http://www.peopleandculture.com.au)

### Boys and their toys

Competition has erupted in the Acrodyne carpark of late in an attempt to hold the trophy of "who has the shiniest and hottest motor vehicle". Sales & Marketing Manager, Chris Hoare would hands down win the "most obsessed with cleanliness" award with his stunning red VE SS Commodore, Jon Bayly our Purchasing Officer would win the "I love Holden more than my mum" award, but this years award has to go to Acrodyne's Administration Coordinator Hendro Setiawan. He has turned his humble Civic into a car straight out of "The Fast and the Furious.... Tokyo Drift".



# Camtorc Hydraulic & Pneumatic Actuators

## TECHTORQUE ARTICLE



## Camtorc

*Hydraulic and Pneumatic Actuator Systems  
in some of the worlds critical and demanding applications*

The well known and respected **Camtorc** actuator, available in hydraulic or pneumatic options and double acting or spring return versions, has a long and successful history of high reliability in the most hostile environments with many examples of actuators originally supplied in the 1970's still remaining in operation today. The **Camtorc** actuator was specifically designed for service in the Power Generation, Offshore and Marine Industries. The robust construction of the standard actuator, fabricated in carbon steel with 316 stainless steel drive shaft, allied to the unique cam mechanism and dedicated spring compression piston (on pneumatic actuators) gives high spring break and run torques ensuring valves do not stall mid stroke. The small envelope dimension saves space on the confined spaces on ship decks, FPSO's or platform topsides.

### Principle of Operation

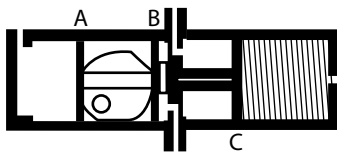
#### *Pneumatic Double Acting Actuator*

The two pistons (A+B) are connected by spacer bars, with the cam between them. The cam is profiled so that it always makes contact with the centre of the piston face throughout the stroke. As the pressure is applied to either piston A or B, the piston movement causes the cam and shaft assembly to rotate in either a clockwise or counter-clockwise direction. The end of the stroke occurs when the flat face of the cam comes up against the piston.



#### *Pneumatic Spring Return Actuator*

The spring return actuator use the same parts as a double acting actuator but is fitted a spring module at one end consisting of a cylinder and a third piston (C) preloaded with a spring nest. In operation, the supply pressure is applied to pistons A and C compressing the spring and rotating the cam as in the double acting actuator. When the supply pressure is removed, the ports connected pistons A and C are vented and the spring force returns the assembly to its original position.



#### *Hydraulic Actuator*

The Camtorc hydraulic actuator uses standard actuator bodies and internals but with a hydraulic module in the actuator end cap. Two hydraulic modules are required for the double acting actuator and one for the spring return actuator. The module consists of a small diameter cylinder fitted with a piston/push rod, in operation, hydraulic pressure moves the piston, and movement is transmitted to the actuator mechanism.

### The Camtorc Actuator offers a number of advantages including:

- **Modulation Control** – Zero Backlash & Linear Characteristics – ideal combination for this duty.
- **ESDV Duty** – 50% Extra Torque at Spring Break – ensures the valve always closes when needed.
- **Simplest Mechanism Available** – By utilising the unique cam mechanism, complex assemblies required to dissipate the high side loads generated by Scotch Yoke actuators are totally eliminated.
- **No Side Forces** – Low wear giving exceptionally long service life.
- **Compact Design** – Over 50% the length of a scotch yoke actuator.
- **Whole Life Cost** – Exceptionally low wear, maintenance, and initial competitive prices ensures that the Camtorc actuator provides the optimum Whole Life Cost solution for the customer.
- **Hydraulic Actuators** – Supply pressure 3 bar to 300 bar with torque outputs up to 30,000 Nm.
- **Pneumatic Actuators** – Supply pressure 2.7 bar to 10.5 bar with torque outputs up to 25,000 Nm.
- **Paint System** - Standard actuators are finished in 2-pack epoxy paint system to offshore standard.

For more information on Camtorc or any of Acrodyne's other products please call (03) 8728-7800

