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# infaumation

Auma India Quarterly Newsletter (Oct – Dec'11)



*With gleam of Diyas And the Echo of the Chants,  
May Happiness and Contentment Fill Your life  
"Infaumation" Wishes all its readers a very happy and prosperous Diwali!!*

### 3 x 660 MW Koradi Expansion Project, Koradi

Auma India has bagged the order for supply of electric actuators with Integral starter from MAHAGENCO for the supercritical unit of 3 x 660 MW Koradi TPS Expansion Project.

The 3 x 660 MW comprises of units 8, 9 & 10 with unit 8 replacing the existing 4 x 105 MW de-rated capacity units. The net capacity addition is 1,560 MW.

### 2 x 350 MW Coal Based Thermal Power Plant, Sahajbahal

Auma India is supplying electric actuators with locally developed MODBUS Protocol for the 2 x 350 MW coal based thermal power plant at Sahajbahal, Orissa. This project is being executed by Ind - Bharat Energy (Utkal) Ltd.

There are other actuator suppliers who are supplying only the On-Off duty actuators for the same project.

### Auma India Supplies Actuators for Various NTPC Power Projects

Auma India supplies complete range of products to operate gates and louvers for various NTPC projects through BHEL Ranipet. Below is the list for various NTPC projects:

- Nabinagar 4 x 250 MW power project
- Mauda 2 x 500 MW power project
- Vindhyachal 2 x 500 MW power project
- Barah 2 x 660 MW power project
- Rihad 2 x 500 MW power project

Auma India actuators along with IVC Knife Gate valves are supplied for various applications like Sewage treatment plant, Chemical and Raw Material industries, food industry and mining and allied industries.



# AUMA

## Auma India Products used for Automating Large Sized Valves



Auma India products used for automation of Large sized triple offset butterfly, high performance butterfly and check valves manufactured by Advance Valves to be used in industries like Oil & gas, water, power and refineries across the world.

## Auma Adds an Additional Gear Hobbing Machine

Auma India has recently ordered a Gleason-Pfauter Gear Hobbing Machine P 90 adding to the existing machines under the Auma expansion plan. Auma India would be the first one in India to have this high-tech machine for gear hobbing and worm milling operations. With the options like automatic positioning device, fast and flexible workpiece changing systems, maintenance free direct drive, digital drive technology on all axes with integrated gear interpolation functions, absolute measuring systems and Siemens 840D numerical control, Auma India would be able to produce components with very close tolerances, in turn helping Auma India to meet increasing customer demand for quality product.



## An Additional Turn Mill Center Commissioned under Auma India's Expansion Plan

Auma India has recently commissioned a DMG make Sub Spindle CNC Turn Mill Center CTX beta 500 with Y - axis. The high-tech fittings in the machines would be able to perform numerous operation, in-turn helping Auma India to meet increasing customer demand for quality product.

## Description of Valve Disc Movement (VDM)

In the process of automation where valves are employed, there is a need to describe the valve disc movement visually / in terms of electric signals. Depending on the duty of the valve usage, i.e. On – Off, inching or regulating, selection of the type of signalization is made. The trend is to describe accurately and precisely the movement of the valve disc. Some of the common methods employed for continuous position indication are as follows:

- **Continuous mechanical position indicator (MPI)** - To describe valve movement continuously and visually through the arrangement of a reduction gear unit deriving motion from the actuator output is a common practice. The selection of the reduction gear unit ratio is in direct relation to the no of turns required for valve fully open position to fully closed position. The dial movement is seen through a sight glass provided on the actuator limit switch compartment cover. This is a very basic way of describing the valve movement and helpful only when the actuator sight glass can be in the visual gaze. Digital remote position indicators are employed sometimes to describe valve position in percentage.

In manually operated valves, where we employ gearbox for the operation, valve disc movement is described generally through a pointer and the markings on the gear box frame for indicating open - close position of the valve.

### ● Electrical Signals

- **Potentiometer** - It is very common to describe the valve disc movement through a powered potentiometer, usually the open to close position corresponding in terms of 0 – 5 V. The ohmic value of the potentiometer is selected based on the instrumentation standards defined for the plant. The common ranges are 100, 220, 550, 1000, 4700 and 5000 ohms. Sometimes it is the practice to indicate the valve movement through a corresponding voltmeter fixed on the control panel of the actuator. The voltmeter is calibrated in terms of 0 to 100%. It should be noted that for regulating duty actuators, only precision potentiometers are used to have better accuracy. In certain demanding areas even plastic film type potentiometers are used.

- **Contact type position transmitter (Resistance type 4 – 20 mA)** - The valve disc movement is described in terms of 4 – 20 mA by a signal converter [EPT], which converts the resistance value of the potentiometer into the proportionate current signal, which is housed inside the electric actuator. It's preferable to use a 4.7 kohms potentiometer so that reference voltage source is not over loaded. The EPT requires a 24 V DC regulated power supply, which is easily achieved with Auma power supply unit PS 01 even when the input voltage fluctuation is  $\pm 15\%$ . There are different configurations available for EPT's like 2 wire, 3 wires etc. The linearity of 3 wire systems is 0.5% compared to 1% linearity with 2 wire system, when auma EPT's are used. Dual output position transmitter are also employed when 2 galvanically isolated 4 – 20 mA is required. This device requires 24 V DC power supply, regulated within  $\pm 10\%$ . Auma power supply unit is recommended for this purpose.

- **Non-contact type Position Transmitters (LVDT - Linear variable differential transformer)** - This is also known as inductive type position transmitter (IWG). This is utilized for regulating duty actuators demanding high accuracy. The linearity of inductive unit is less than 0.3%. This consists of Linear Variable differential transformer and on electronic unit. The transformer has no moving contacts.

- **Capacitance type Remote position transmitter** - The change in capacitance value is converted proportionally to 4–20 mA signals to accurately indicate the valve position with the linearity of less than 0 - 3%.

4 - 20 mA signal transmitters are used wherever cable distances are long.

- **Fieldbus system** - When fieldbus systems are employed as a communication protocol, the valve movement description is in the form of digital signals 0 – 1000 counts (0 signifies fully closed position and 1000 signifies fully opened position). Auma India is providing this facility with MODBUS communication protocol for various industrial applications.

## Customer Training Programme

A 3-day training programme was conducted by Auma India at Bangalore on 7th to 9th April, which was attended by 36 representatives of various customers and end-users. Training programme included both theoretical and practical training sessions and was tailored to suit the profile of the attendees.

## Upcoming Customer Training Programme

TRAINING START DATE	TRAINING END DATE
10-01-2012	12-01-2012

For more details

Contact : Mr. Krishnamurthy Umesh,  
VP – Spares & Services

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Visit : [www.auma.co.in/service/customer\\_training](http://www.auma.co.in/service/customer_training)

Download the customer training enrollment form and send it to [service@uma.co.in](mailto:service@uma.co.in).



### Bharat Heavy Electricals Limited

(A Govt. of India Undertaking)

Power Sector – Southern Region

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Addl. General Manager

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Date: 24.02.2010

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Fax :080 - 28392809

Sir,

A Technical Training on Electrical Actuator was conducted on 23.02.2010 at BHEL Site Office, NLC TPS II Expn., Neyveli. Your experts - Mr. Krishnamurthy Umesh, Senior Manager (Service), Mr. S.V. Raghavendra Asst. Manager and Mr. N. Ravindra Babu handled the sessions as faculties. The training consisted of a technical theory session in the forenoon and a live demo of e-pack actuator in the afternoon at site.

The theory session covered various topics like company operation, product profile, technical details of various components of electrical actuator like motor, gear box assembly, worm gear, Electronic Position Transmitter, Torque & Limit switch assembly, model selection wrt Torque & KW rating and precaution to be taken during erection and commissioning.

Both the sessions were very much lively and interactive. All the 32 participants from BHEL Site, NLC, Erection Contractors attended this training got benefited. We hope that the product knowledge gained during the training would go a long way to ensure smooth erection and commissioning of the electrical actuators at Neyveli project site.

We take this opportunity to thank M/s. AUMA (India) Private Ltd., Bangalore for the efforts taken and disseminated the product knowledge to our E&C Personnel at Neyveli project site.

Regards,

  
(G. Mathiyalagan)

Appreciation Letter from the Customer



**AUMA**



**Only original AUMA spare parts should be used for the proper functioning of the equipments. Failure to use original spare parts voids the warranty and exempts AUMA from any liability.**

### Auma India Pvt. Ltd.

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