SVF Flow Controls INCORPORATED

FlowRATE

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# Applying the Laws of Physics to Organizational Change...

Affecting change in an organization requires that we apply some of the basic physical constants such as;

• force • speed • motion

For a management team these constants can be applied using the Scientific Method.

Loosely:

• **Predictions/Hypothesis** – A plan or a destination. A desired result that is clearly documented

• **Experiments** – The action plan captures the steps needed to get from the current state to the desired state.

• **Measurements** – Along the way each of the steps is applied and measured to determine if they align with the desired results (sales growth, deadlines etc.)

• **Results** - Hopefully, the approach achieved what was expected or required. If not, then we loop back to the beginning.

If we continue with the scientific terms and approach:
Change can be considered (and treated like) the immovable object. If an organization is "moving" (or changing) in a desired direction then there would be no reason to implement a change initiative. But change needs movement, speed and direction in order to suit the organizations goals.

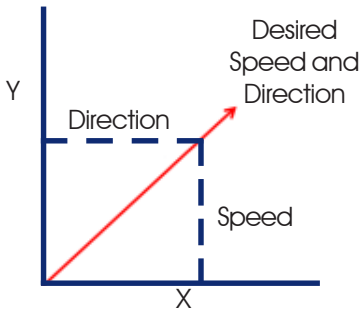
• **Movement** - Change your position from where you are to someplace else

• **Speed** - the pace of movement/change must suit the desired result

• **Direction** - movement for the sake of movement is a waste of energy

For those who operate on the quantum level of the business universe, it is often too apparent that chaos can dominate the landscape. The chaos theory was developed once scientists began working with the speed of light.
Chaos is explained as the result of the excessive speed of particles that are moving in no particular direction. Does some of this sound familiar? A team can operate for long periods of time at high speeds but with no particular plan or direction. The result = chaos.

Newton's First Law of Motion states that in order for the motion of an object to change, a force must act upon it, a concept generally called inertia. Inertia means that an object will always continue moving at its current speed and in its current direction until some force causes its speed or direction to change.

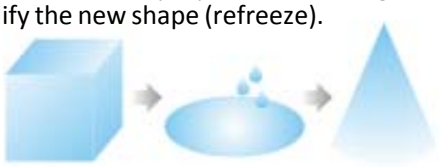



This would include an object that is not in motion (velocity = zero), which will remain at rest until some force causes it to move. So *change* requires the application of force and where the force is applied will affect its speed and direction.

## SVF Vision Critical

Newton's Third Law of Motion states that any time a force acts from one object to another, there is an equal force acting back on the original object. If you pull on a rope, therefore, the rope is pulling back on you as well. (If you push for change…expect resistance)

*How about a moment with Thermodynamics?*
If you have a large cube of ice, but realize that what you need is to change it to a cone of ice, what do you do? You can attempt to hammer and carve it into the new shape exerting much force and energy or you can melt the ice to make it amenable to change (unfreeze). Then you must mold the iced water into the shape you want (change). Finally, you must solidify the new shape (refreeze).



Change, because it is such a difficult task, cannot be forced to re-shape. The organization must be prepared for re-shaping on a molecular level. Changing the ice into iced water requires time, energy and control.

In closing, take a moment to view your change initiative as a social experiment and a cultural challenge but do not be afraid to use the Scientific Method or any of the Laws.

- Energy – Cannot be created only re-directed
- Friction-Expect resistance
- Weight-Prioritize
- Balance-Speed and Direction must be carefully applied
- Leverage-Prepare to negotiate through the tough times.

With the right approach maybe "success" can find its way into your science vocabulary!

*by Wayne Ulanski, Chief Operating Officer, SVF Flow Controls*

## INSIDE THIS ISSUE

*Cover Story: Vision Critical*

## Employee Spotlight... Vladimir Alvarado

*Vladimir "Vladi" Alvarado*
***Engineering Technician***

In his new position as our *Engineering Technician*, Vladimir Alvarado will be working side by side with the Quality department to ensure the most reliable product is being offered to the marketplace. He will be strategically analyzing products and developing ideas that best fit our customers needs. Vladi, as he is referred to, joins the SVF team with two years of experience, which he gained here at SVF during a part-time internship while attending school full-time. In May, after years of sacrifice and hard work, Vladi earned his Bachelors degree of Science degree in Mechanical Engineering from California State University of Fullerton. When Vladi is not testing first article products or updating our existing drawing library, he enjoys playing basketball at a local league with a group of high school friends.

## New Distributor Spotlight... ACI Controls, Inc.

ACI CONTROLS, INC.
A leader in process controls since 1945

SVF Flow Controls welcomes our newest Distributor:
***ACI Controls, Inc.***

At **ACI Controls** their attention to quality goes well beyond the products and services they sell. From field sales personnel to their customer service and support team, the entire organization stands ready to provide expert product advice, application assistance or technical support whenever and wherever it's needed.

Here is a brief outline of the History of ACI Controls:

Founded in Buffalo, New York, **in 1945**, ACI Controls handled almost everything that was traditionally found in the supply area of any manufacturing facility.

**In early 1950**, Chippewa signed contracts with U.S. Gauge to represent their products throughout upstate New York. A sister company, Analog Instruments, was opened to cover the Syracuse-Binghamton-Albany territory.

**In 1981**, Robert Wischerath, Sr. purchased both companies and subsequently merged them into ACI Controls, Inc. in 1987. The result has been a more efficient, customer-driven organization offering value through superior industry knowledge and the most competitive prices for its customers.

**In 1988**, ACI re-focused its sales force into two distinct organizations; the Mechanical Division and the Instrumentation Division. Each division is staffed with its own sales force responsible for the associated product lines, while working together to bring the best solutions to customers. The specialization that the two sales forces bring to the market guarantees product and customer expertise as well as market coverage second to none.

**Today**, ACI proudly represents many world and industry leaders and we are especially proud to have them as part of the SVF family!

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# Being A Resource... Selecting an Actuator for Quarter-Turn Valves

## Part One of a Three-Part Series: Selecting an *electric actuator* for quarter-turn valves

*by Larry Woodworth,*
*Regional Manger- Midwest, SVF Flow Controls*

If you have selected an electric actuator for your quarter-turn valves, you must be sure that you have the proper power supply available near the location where the actuator is to be installed.

The next item to focus on is the valve you will be automating. Whether it's an existing valve or a new valve, there are a few things you need to know to obtain the valve torque properly:

- Valve Size
- Valve Seat Material
- Type of Media
- Operating Pressure
- Operating Temperature

This will help you determine the valve torque which is required to properly size the actuator. Manufacturers publish their valve torques along with safety factors to add to the published torque depending on the media. An oily liquid will not need to have a safety factor, maybe even a decrease of the torque. Steam, sticky or abrasive media will cause an increase in torque. Determine your torque using the values published by the manufacturer.

| MEDIA SAFETY FACTORS | |
|---|---|
| Oils, Lubricants | 0.8 |
| Liquid, Clean | 1.0 |
| Liquid, Dirty (slurry), raw water | 1.8 |
| Gas, clean and wet (saturated steam) | 1.0 |
| Gas, dry (superheated steam) | 1.3 |
| Gas, dirty (natural gas) | 1.5 |
| Oxygen, Chlorine | 1.5 |

Here is a list of features or equipment you might require or need to specify for an electric actuator:

- Compare the valve torque to the actuator torque. The actuator torque must be larger than the valve torque.
- Butterfly valves: You will need an electromechanical brake to hold the disc from fluttering in mid-stream.
- Determine the voltage. For three phase motors, a reversing contactor is required.
- The type and amount of switches you may need. Normally SPDT or DPDT and up to 4 switches may be stacked inside the actuator.
- Heater and thermostat: for lower temperatures to -40F and to help with condensate in high humidity areas.
- Analog positioner for modulating control.
- Speed control circuit to adjust cycle time.
- Three position control for three way and diverter valves.
- Two-wire control for digital interface.
- The enclosure can be weather proof, NEMA 4 or explosion proof NEMA 7, or another type of enclosure rating.
- Duty cycle for standard on-off applications is 25% (i.e., If the actuator runs for 10 seconds then it needs to rest for 40 seconds before it can be used again). For applications where the actuator needs to turn on or off frequently or for control applications, an extended duty cycle motor is required.

*Example: Since the actuator torque on an electric actuator is linear, if the torque for the valve is 300 in/lb then the actuator has to be sized for a torque value higher than 300 in/lb.*

**Next Month: How to Select a Pneumatic Actuator**

# The Quality Corner... Our Customer/Supplier Partnership

*Raul Rovirosa*
*Quality Manager*

QUALITY FLOWS THROUGH US

### *Incoming Inspection: A Customer/Supplier Partnership.*

One of the key areas where the Quality Department is of most importance in a manufacturing environment is at *Incoming Inspection*.

It is an activity that does not improve a product; rather, it identifies products that may not meet standards. Having a strong *Customer/Supplier Partnership* is of great importance to SVF, in order to maintain the quality that is expected. Having effective *Supplier Qualification* process in place is key in achieving this success.

Clearly identifying the requirements up front and understanding the Suppliers capabilities is essential - along with pricing, our customers needs, on time delivery - all are key factors. Having a beneficial Customer/Supplier Partnership with your critical suppliers will aid in achieving daily success and goals at incoming inspection. The optimum goal would be to reduce incoming inspection time due to a Supplier providing materials on a consistent basis with zero defects detected by our Quality Assurance Technician.

## "The Napkin" - Where all great design ideas begin

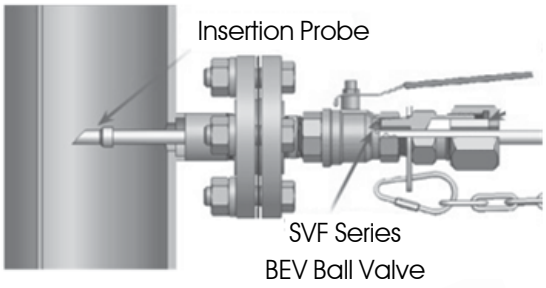
# SVF Ball Valves Used With Insertion Probes

An insertion probe is a device that is installed through the wall of a piping system to enter the flow stream of a system and then perform some type of sensing.

Probes are designed for tasks such as:

- **Temperature measurement**
- **pH measurement**
- **Flow rate**

Because the pipeline is breached, in order for the probe to be inserted, SVF ball valves are used to serve as the shutoff device when building a complete insertion probe system.



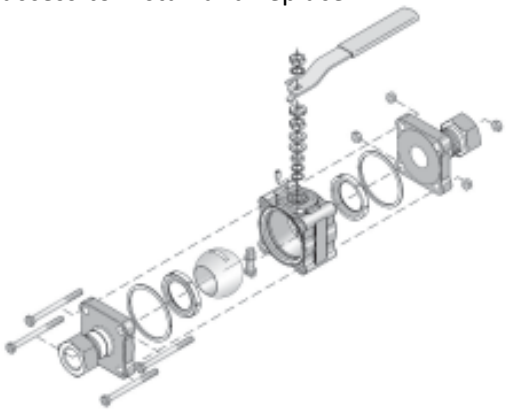

Two of the most common types of SVF ball valves used in these systems are:

**B41**
Full port flanged valve

**BEV**
Full port stainless steel

## Product Focus... SVF Series L8 Instrumentation Valve

We recently recommended our Series L8, 3 pc. Instrument Ball valve with confidence as the ideal solution for a customer who was looking to use tubing to move media through an application.
Designed with compression ends, this process-quality ball valve is compatible with all of the leading instrument fittings and features an integral ISO mounting pad and easy 3 pc. "swing out" design for easy access to install and replace.



Available in sizes ¼" through 1", this valve can be designed with a wide selection of seats and seals, including our own SupraLon™ seats for higher temperatures, steam and thermal fluid applications.
If you would like additional information on our L8, 3pc. Instrument Ball Valve, please visit our website, ***www.SVF.net***. *Get the L8 Data Sheet by going to* ***www.SVF.net/data_sheets/l8_03_2010.pdf*** or view our entire Library of Data Sheets on the Home Page of our website. If you require additional information, please contact us at 1.800.783.7836