



#### Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineering solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuff, starch and pharmaceuticals.

Our worldwide organization works closely with customers in more than 100 countries to help them stay ahead.

#### How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit [www.alfalaval.com](http://www.alfalaval.com) for more information.

## ThinkTop® Control and Indication Unit

Optimum Valve Control that Keeps You on Top of Your Process



## Optimum valve control

For reliable, automated system control, look to the new *ThinkTop*® control and indication unit from Alfa Laval.

*ThinkTop*® offers the most advanced, automated control of valves in the industry. Whether you are modifying an existing plant or planning a new installation, *ThinkTop*® is just right for your process.

*ThinkTop*®'s registered design features a modularity and flexibility like no other control unit Alfa Laval has ever offered.

Keep reading to find out all the benefits of the *ThinkTop*®.

You will see how *ThinkTop*®:

- Self-adjusts when installed
- Can be set-up without dismantling or readjusting
- Fits all air-operated, sanitary valves from Alfa Laval
- Includes a wide range of interface modules
- Features an integrated indication of seat-lift
- Offers the ability to integrate external signals in the top – includes maintenance indication integrated in the top
- Saves set-up parameters until re-programmed – even in the event of power failure!

We are convinced that *ThinkTop*® will help keep you on top of your process!

## Set & forget

In the past, a control unit had difficulty in maintaining set parameters entered by the user. With *ThinkTop*® you set it just the one time – and then forget about it! Using a combination of state-of-the-art, patented sensor system and pre-set tolerance bands, the *ThinkTop*® self-adjusts, eliminating the need for adjustment over time.

### Saves installation time and money

Whether retrofitting an existing system or in combination with new installations, *ThinkTop*® can be easily set-up without dismantling or extensive manual adjustment. This saves you valuable time and money. And installation can be as easy as one flying cable to get you up-and-running fast. The set-up procedures for the *ThinkTop*® are even easier.

### Teaching *ThinkTop*® the right way

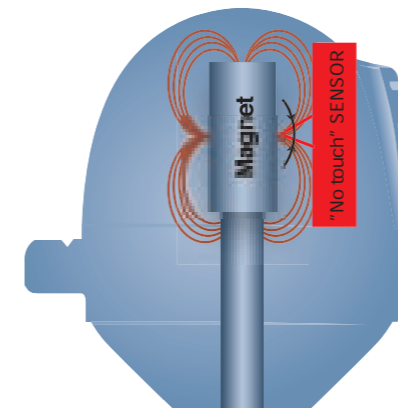
Following the set-up procedure, you first add air to the valve. Then, press just one button on the optional remote control (according to the set-up procedures), or the manually set parameters in the top unit. The *ThinkTop*® learns these parameters and stores the information in its memory.

Repeat these steps when the valve is closed, and you are ready to go! This same simple process can be used to “teach” the *ThinkTop*® a variety of seat-lift parameters.



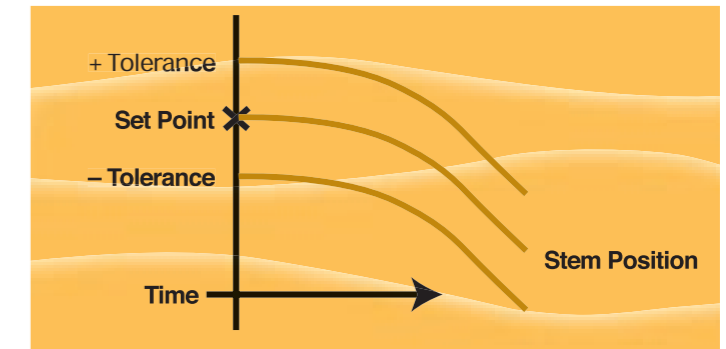
The *ThinkTop*® control and indication unit is so versatile it can be used on any air-operated, sanitary valve from Alfa Laval – including single-seat and mixproof valves.

### Sensor principle



*ThinkTop*®'s unique, patented sensor system can retain its feedback signal over time. Microchips within the sensor system calculate the current position of the valve stem at set-up, which is then stored in the unit's memory.

### Tolerance program



Tolerance self-adjustment feature.

## Offers simple integration

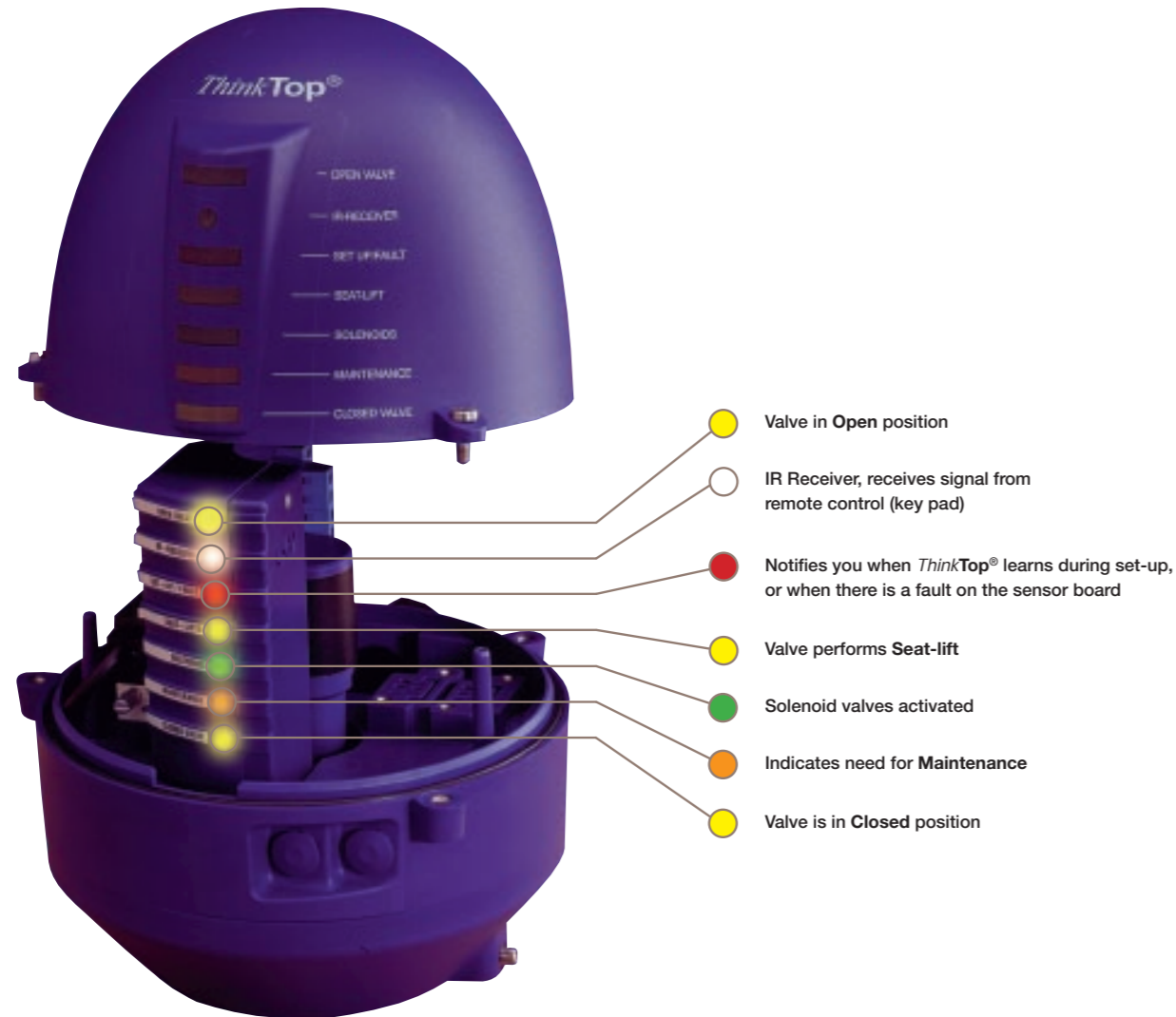
Most control tops in the industry only offer open and closed signals. *ThinkTop*® goes one step further. In addition to open and closed signals, *ThinkTop*® offers two additional internal signals, external signals, or one of each. The accuracy of the sensor system even allows *ThinkTop*® to detect seat-lift.

### Notifies you when maintenance is necessary

*ThinkTop*® also allows you to set a specific time frame, of 90-day intervals, to indicate when normal valve maintenance is required. When this period of time has expired, *ThinkTop*® will send a signal to the control computer and an orange LED light will illuminate.

Based on the valve's movement along the previously set tolerance band, *ThinkTop*® can also tell if any elastomers have worn out before scheduled maintenance. Over time, the valve may move outside the tolerance band into an "alert" band, which is often due to seal wear. While the system retains its feedback signal and continues to operate, you will be notified that maintenance is necessary. Again, an orange LED light will come on and a signal will be sent to the control system.

This maintenance notification eliminates valve seal leakage and unnecessary shutdown. Knowing the condition of your valve before it is too late will ultimately improve its overall performance.



## Fits all valves

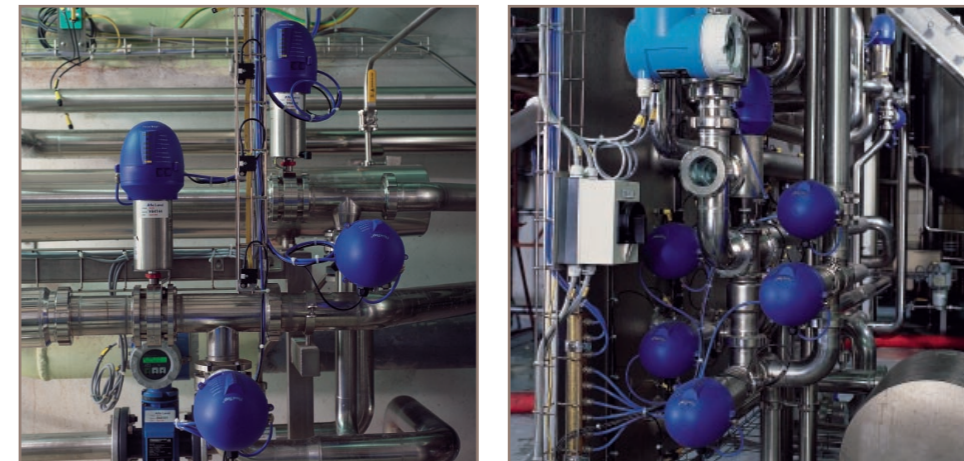
The *ThinkTop*® control and indication unit is so versatile, it can be used on any air-operated, sanitary valve from Alfa Laval – including single-seat, butterfly and mixproof valves. This means you do not have to worry about attaching *ThinkTop*® to a specific Alfa Laval valve, thus virtually eliminating any room for error. And, since one *ThinkTop*® fits all valves, any surplus valve purchased can be used for your other valve applications.



## Fits most systems

The ability to operate with a variety of interface modules is yet another benefit of *ThinkTop*®.

Three levels of communication, including Digital, AS-Interface (simple BUS system) and DeviceNet (advanced BUS system), are all compatible with the *ThinkTop*® control unit.



## Includes many interface options

### Digital

The Digital interface application range option for *ThinkTop*® is based on traditional cable architecture, handling inputs and outputs working in conjunction with any PLC. You can easily replace an already installed control unit with another Alfa Laval valve – without redesigning your control system!



Digital

### AS-Interface

*ThinkTop*®'s AS-Interface application range option connects binary components, such as indication sensors, push-buttons and valve control units to a master control system.

The AS-Interface is best seen as a digital replacement of traditional cable architecture and is designed for the lowest automation level where higher bus systems are either too expensive or too complex. This interface, an open standardized fieldbus networking system, is incorporated inside the sensor. Because the AS-Interface is supported by leading companies around the world, you are not limited to one supplier.



AS-Interface

### DeviceNet

The DeviceNet interface option – also a standardized fieldbus networking system – offers the most sophisticated communication system to control the *ThinkTop*®.

This low-cost communication link connects valve manifolds, variable frequency drives and many other devices, eliminating expensive hard wiring. DeviceNet lowers costs and reduces wiring and installation time. It can also be exchanged with similar components from multiple vendors.



DeviceNet

## Tested and approved by independent companies

The Alfa Laval *ThinkTop*® control and indication unit has been subject to a number of comprehensive tests during its development process.

All trials were carried out by independent test institutes to ensure absolute safety and conformity to legal standards.

Classification and tests of the working environment were undertaken to certify that the *ThinkTop*® would perform even under the harshest of conditions.

The *ThinkTop*® conforms to the following:

- Protection Class IP67
- EMC Directive
- Environmental, Humidity and Temperature Testing
- Vibration and Electrical Testing

During the development process, all features and functionality of the *ThinkTop*® unit were thoroughly examined in the Alfa Laval laboratory.

On completion of these research testing procedures, the *ThinkTop*® control and indication units were installed at a number of various live field-test sites covering a wide range of different application processes.

